

**UNCLASSIFIED**

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: <b>February 2005</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RESEARCH DEVELOPMENT TEST &amp; EVALUATION, NAVY / BA-5</b>					R-1 ITEM NOMENCLATURE 0604231N - TACTICAL COMMAND SYSTEM			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	65.004	59.499	51.177	50.640	53.330	56.078	57.388	58.537
2213 MISSION PLANNING	24.239	15.024	9.362	8.749	9.075	9.685	9.878	10.070
0486 Tactical Support Center/GCCS-M TACMOBILE	1.245	1.201	1.138	1.357	1.396	1.426	1.464	1.496
0521 Shipboard Tactical Intel/GCCS-M INTELLIGENCE APPLICATIONS	2.565	2.937	2.990	3.622	3.698	3.773	3.852	3.924
0709 GCCS-M MARITIME APPLICATIONS	6.974	5.984	7.167	7.766	7.940	8.096	8.274	8.438
2009 OIS Evolutionary Development/TRUSTED INFORMATION SYSTEMS	2.120	1.463	2.148	1.840	1.662	1.480	1.509	1.536
2305 GCCS-M COMMON APPLICATIONS	9.936	8.959	9.779	6.785	7.051	7.287	7.555	7.800
2307 Shipboard LAN/WAN/INTEGRATED SHIPBOARD NETWORK SYSTEM	1.027	1.661	3.052	3.240	3.346	3.421	3.509	3.589
3032 NTCSS ENTERPRISE DATABASE AND MLDN	3.144	0.070	0.048	0.048	0.055	0.053	0.053	0.054
9123 FORCENET	9.668	15.473	15.493	17.233	19.107	20.857	21.294	21.630
9372 3D COMMON OPERATIONAL PICTURE	1.636	2.566	0.000	0.000	0.000	0.000	0.000	0.000
9373 AN/UYQ-70 BASED IT-21 C4SIR UPGRADES	2.450	4.161	0.000	0.000	0.000	0.000	0.000	0.000
<b>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</b>								
<p><b>The Tactical Command System (TCS) upgrades the Navy's Command, Control, Computer and Intelligence (C3I) systems and processes C3I information for all warfare mission areas including planning, direction and reconstruction of missions for peacetime, wartime and times of crises.</b></p> <p><b>GCCS-M:</b> A major component of the TCS is the Global Command and Control System - Maritime (GCCS-M). GCCS-M is the Navy's fielded Command and Control system, a key component of the FORCENet C4ISR strategy, and is the Navy's tactical implementation of the Global Command and Control System (GCCS). GCCS-M has aggressively pursued an evolutionary acquisition strategy in rapidly developing and fielding new C4I capabilities for GCCS-M Afloat, GCCS-M Ashore, GCCS-M Tactical/Mobile and TIS users. GCCS-M current phase includes continued usage of the Defense Information Infrastructure Common Operating Environment (DII COE), as stipulated by the Joint Technical Architecture, incorporation of Fleet requirements for merging tactical and non-tactical networks, and application of mature Web and Personal Computer (PC) technologies to provide required information/capabilities. This phase will provide, in the short term, deployment of an integrated UNIX/PC/COTS based Naval implementation of GCCS-M which will provide the warfighter with a cost-effective, user-friendly, comprehensive C4I solution and, in the long-term, a continuous, integrated Command and Control link from sensor to shooter, including full-range real-time or near-real-time information to weapon systems for decision makers. In FY05, GCCS-M will begin migration to Joint Command and Control (JC2) development in coordination with the Joint Command and Control (JC2) Program.</p>								

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<p><b>Additionally, this budget provides funding for the following:</b></p> <p><b>Shipboard LAN/WAN - Integrated Shipboard Network Systems (ISNS):</b> The Integrated Shipboard Network System (ISNS) provides Navy ships with reliable, high-speed SECRET and UNCLASSIFIED Local Area Network (LAN)s, providing the network infrastructure (switches and drops to the PC), Basic Network Information Distribution Services (BNIDS) and access to the DISN Wide Area Network (WAN) (Secure and Nonsecure Internet Protocol Router Network -SIPRNET and NIPRNET) which are used by other hosted applications or systems such as Naval Tactical Command Support System (NTCSS), Global Command and Control System - Maritime (GCCS-M), Defense Messaging System (DMS), Navy Standard Integrated Personnel System (NSIPS), Navy Marine Corps Portal (NMCP), Naval Mission Planning System (NAVMPS), Theater Battle Management Core Systems (TBMCS), and Tactical Tomahawk Weapons Control System (TTWCS) . It enables real-time information exchange within the ship and between afloat units, Component Commanders, and Fleet Commanders and is a key factor in the implementation of the Navy's portion of Joint Vision 2020. Funding supports the design, development and testing of the ISNS LAN for surface ships.</p> <p><b>CENRIX:</b> The Combined Enterprise Regional Information Exchange System (CENTRIXS) program provides Navy ships with a reliable, high-speed Local Area Network (LAN) that will provide access to the coalition (Four Eyes, Global Counter Terrorism Task Force (GCTF), CENTRIXS J and K, Multinational Coalition Force Iraq (MCFI) and all other bilaterals) Wide Area Network (WAN). It provides real-time information exchange between afloat units, Component Commanders, numbered Fleet Commanders and Commanders LANT/PAC Fleet through the migration of existing legacy systems into the ISNS strategy, full synchronization of shipboard networks, mission and information applications and Radio/Satellite communications and shore data dissemination infrastructure, installations are necessary to ensure end-to-end capability. The CENTRIXS program maximizes the use of both COTS software and hardware resulting in dependence of commercial support. Engineering and technical support is provided so that existing systems will be upgraded/modified to keep pace with the commercial community.</p> <p>CENTRIXS RDT&amp;E Project funding supports the development of acquisition documentation essential to the program. The goal for the CENTRIXS program is to provide a cost-efficient operationally effective network that dramatically reduces the infrastructure requirements, while maximizing operational flexibility in a coalition environment. MLTC initiatives include Server Virtualization Development, which provides the ability to run multiple virtual servers on a single server. Additionally, this funding provides design, developing and testing of the Unit level MLS/MLTC system that will reduce drop requirements while minimizing server and client footprint and migration testing with the existing Force level design from CENTRIXS to Microsoft software baseline will reduce software costs.</p> <p><b>Submarine Local Area Network (SubLAN):</b> The SubLAN program provides Navy submarines, with reliable, high-speed SECRET and UNCLASSIFIED Local Area Network (LAN)s. When the SubLAN network is combined with other subsystems, it will deliver an end to end network-centric warfare capability. The SubLAN program is comprised of two increments - SubLAN 1 and SubLAN 2. SubLAN 1 provides network infrastructure including an Unclassified Wireless Local Area Network (UWLAN), servers, and the Common PC Operating System Environment (COMPOSE), which provides the server and operating system environment for other applications such as Non Tactical Data Processing System (NTDPS) and Navy/Marine Corps Portal (NMCP). SubLAN 2 provides a full complement of SIPRNET drops, SCI drops, additional switch/backbone capacity, and improved reliability upgrades to SubLAN 1. Funding supports the design, development and testing of the SubLAN for submarines.</p>		

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<p><b>Navy Tactical Command Support System (NTCSS) Enterprise Database and Maritime Logistics Data Network (MLDN):</b> This RDT&amp;E Project funding supports design, development and testing of two components of the NTCSS web initiative, NTCSS Enterprise Database and Maritime Logistics Data Network (MLDN). The development of a web-enabled enterprise database for NTCSS application will place all NTCSS databases into a similar structure, allowing greater interoperability between applications. MLDN will facilitate the movement of administrative workload from ships to shore.</p> <p><b>FORCEnet:</b> Initiatives include the necessary Transformation Master Planning required across all management execution horizons (Near/Mid/Long-Term) to evolve towards a fully-netted human centrally optimized combat force structure. FORCEnet efforts will serve as the transformational change agent for the integration of all Navy and Marine Corps mission capabilities, system and human-centric architectures coupled with enabling technologies grounded in a business-based program order-of-buy approach combined with the technical program management/execution responsibilities leading Navy and Marine Corps transformational capabilities towards a fully netted combat force. FORCEnet is the architecture and building blocks of sensors, networks, decision aids, weapons, warriors and supporting systems integrated into a highly adaptive, human-centric, comprehensive system that operates from seabed to space, from sea to land.</p> <p><b>Mission Planning:</b> The goal of the NavMPS Program Team is to develop scaleable, extensible, and configurable planning systems to meet a full range of automated mission planning needs. NavMPS products (includes the Joint Mission Planning System (JMPS)) provides the information, automated tools, and decision aids needed to rapidly plan aircraft, weapon, or sensor missions and post-mission analysis of recorded data. JMPS is a co-development effort between the USN, USAF, USA, and SOCOM under the Multi-Service Joint Enterprise Management Team (JEMT). Requirements are identified and capabilities are developed in an evolutionary concept in order to address world situation requirements for mission planning and precision guided missile deployment.</p> <p><b>FY04 and FY 05 includes Congressional Adds for 3D Common Operational Picture (COP) and AN/UYQ-70 Based IT-21 C4IS upgrades.</b></p>		

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EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>February 2005</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDTE, N / BA-5</b>		PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System			PROJECT NUMBER AND NAME 2213 Mission Planning			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	<b>\$24.239</b>	<b>\$15.024</b>	<b>\$9.362</b>	<b>\$8.749</b>	<b>\$9.075</b>	<b>\$9.685</b>	<b>\$9.878</b>	<b>\$10.070</b>
RDT&E Articles Qty								

**A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:**

The Joint Mission Planning System (JMPS) is a scaleable, extensible, and configurable open architecture designed to meet a full range of automated mission planning needs. JMPS will provide the information, automated tools, and decision aids needed to rapidly plan for aircraft, weapon, or sensor missions. JMPS will be a Defense Information Infrastructure/Common Operating Environment (DII/COE) compliant mission planning system, which will meet future DOD requirements for interoperability within and across DOD C4I systems. JMPS utilizes a standardized environment for mission planning systems (the Joint Mission Planning Environment (JMPE) that provides a DII COE/Joint Technical Architecture (JTA) compliant Windows 2000 framework, a mission planning infrastructure of basic databases, management tools, and framework services, and set a common flight and mission planning components. JMPS is a combination of the JMPE together with platform/weapon unique components and the necessary system hardware to meet user mission planning needs. Individual platform, weapon, and avionic programs will develop program specific functionality (known as Unique Planning Components) that are integrated with the JMPS framework to provide an integrated systems solution.

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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System	PROJECT NUMBER AND NAME 2213 Mission Planning		
<b>B. Accomplishments/Planned Program</b>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	19.916	4.700		
RDT&E Articles Quantity				
<p>JMPS 1.0 and 1.1 Development Effort- JMPS 1.0 and 1.1 support D/T &amp; O/T; nomination and assessment of JMPS 1.1 contract incentive fees; continue JMPS 1.1 builds to correct discrepancies identified during systems testing. Continue systems testing, start Unique Planning Component (UPC) testing; System of Systems testing, and UPC validations; contract incentive fee. <u>D/T Support--JMPS 1.1 Pre-O/T Readiness Review</u> and began JMPS 1.1 O/T late in FY04. Engineering Logistics &amp; Management support.</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	4.323	10.324	9.362	8.749
RDT&E Articles Quantity				
<p>Continue JMPS 1.2.3 builds to enhance capabilities identified during systems testing. Continue systems testing, start UPC testing, System of Systems testing, and UPC validations. Develop Betas &amp; Version Releases for Framework components &amp; enhanced operability. Develop dynamic replanning capabilities.</p>				

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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System	PROJECT NUMBER AND NAME 2213 Mission Planning			
<b>C. PROGRAM CHANGE SUMMARY:</b>					
Funding:		FY 2004	FY 2005	FY 2006	FY 2007
FY 2005 President's Budget		25.018	10.973	10.310	9.596
FY 2006 President's Budget		24.239	15.024	9.362	8.749
Total Adjustments		-0.779	4.051	-0.948	-0.847
Summary of Adjustments					
Congressional Program Reductions					
Congressional Undistributed Reductions			-0.136		
Congressional Rescissions					
SBIR/STTR Transfer		-0.684			
Programmatic Adjustments			-0.013	-1.040	-0.958
Economic Assumptions		-0.023		0.092	0.111
Reprogrammings		-0.072			
Congressional Increases			4.200		
		-0.779	4.051	-0.948	-0.847
Schedule: <b><u>Acquisition Milestones from PB05 (JV1=JMPS V 1.0 and JC1=JMPS V 1.1 to follow software configuration naming convention)</u></b>					
<b><u>General Information:</u></b>					
JMPS Version 1.0 (Change 2 dated 2 Apr 01); Objective Aug 03, Threshold Feb 04 dates are obsolete as MDA issued the decision not to field Version 1.0.					
JMPS Version 1.1 (Change 2 dated 2 Apr 01), Objective Mar 04, Threshold Sep 04 reflect the official dates in the Acquisition Program Baseline Document.					
JMPS V1.1					
JMPS V 1.1	Unique Planning Component Readiness Review (UPCRR) completed 4 Dec 03 (1Q FY-04)				
JMPS V 1.1	Operational Assessment (DT Assist) was conducted 15-18 Dec 03 (1Q-FY-04); multiple system integration issues discovered.				
JMPS V 1.1	Operational Test Readiness Review (OTRR) OTRR date moved to 4Q FY-04.				
UPC	Validation date changed from 1Q-2Q FY-04 to 1Q-4Q FY-04 due to the completion date of the JMPS V 1.1 UPCRR milestone and OA event in 1Q FY-04 and the subsequent revised phased validation process that will ended 4Q FY-04.				
JMPS V1.2.3 JMPS V 1.2.3 and related milestones are identified.					
<b><u>Test &amp; Evaluation Milestones</u></b>					
JMPS V1.1 System Test dates moved to 1Q-4Q FY-04 as a result of integration issues discovered during OA (DT Assist), TPWG and subsequent test events (Battlespace Integration (BSI) #1 and #2). BSI #1 and #2 were conducted 1Q and 3Q FY-04.					
UPC Integration/Validation to 1Q-4Q FY-04 in support of a JMPS V1.1 OTRR date planned for 4Q FY-04.					
JMPS V 1.1 Operational Test Readiness Review (OTRR) to 4Q FY-04 due to schedule changes necessary to correct deficiencies discovered during OA (DT Assist) and BSI # 1 and #2 test events.					
<b><u>Production Milestones</u></b>					
JMPS IOC date changed from 1Q FY-05 to 4Q FY-04 due to the accelerated release of the E-2C Mission Planning Environment.					
Technical: Not applicable					

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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>			PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System			PROJECT NUMBER AND NAME 2213 Mission Planning				
<b>D. OTHER PROGRAM FUNDING SUMMARY:</b>										
<u>Line Item No. &amp; Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
BLI 287600 TAC A/C Mission Planning System (OPN) Related RDT&E:	8.539	9.042	7.857	8.338	8.668	8.916	9.100	9.290	Continuing	Continuing
PE 0208006F Air Force Mission Support System (Total)	51.645	136.701	143.154	196.749	148.541	96.314	Continuing	Continuing	Continuing	Continuing
<b>(U) E. ACQUISITION STRATEGY:</b>										
<p>The NavMPS program follows an Evolutionary Acquisition (EA) approach with baseline capability developed through a series of phased software expansions. Tactical A/C Mission Planning System (TAMPS) was the initial system developed and fielded with the addition of the Air Force-developed Portable Flight Planning Software in 1998 which rounded out the fielded system capabilities (defined in the TAMPS ORD). Future upgrades to the NavMPS will provide enhanced capability for combat and force-level planning, and in Command, Control, Communications, Computers, and Intelligence (C4I) support. JMPS-M Phase 0 is the baseline for naval mission planning and consists of the legacy UNIX-based TAMPS system and N-PFPS. JMPS-M Phase 1 consists of the underlying architecture that will provide the foundation for future capability builds and includes the basic flight-planning capabilities required by all naval aviation platforms. JMPS-M Phase 2 adds combat-level planning capabilities critical to support precision guided munitions, aircraft avionics systems, and tactical sensors through data load transfers from the mission planning system to the aviation platforms. JMPS-M Phase 2 enables TAMPS to be removed from ship and unit mission-planning spaces. JMPS-M Phase 3 will consist of those command-level tools.</p>										

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Exhibit R-3 Cost Analysis (page 1)										DATE: <b>February 2005</b>		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
<b>RDT&amp;E, N / BA-5</b>			0604231N Tactical Command System			2213 Mission Planning						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Software Dev JMPS 1.0	SS/CPIF/AF	NGIT, VA	32.677								32.677	32.677
Primary Software Dev JMPS 1.1	SS/CPIF/AF	NGIT, VA	24.151								24.151	24.151
Primary Software Dev N-PFPS	MP	Eglin AFB, Florida	7.905								7.905	
Primary Software N-PFPS	MP	Hill AFB, Utah	1.422								1.422	
Primary Software Dev JMPS 1.2.3	MP	NGIT, VA	3.837	5.826	11/04	1.500	11/05	1.200	11/06	Continuing	Continuing	
Training Development												
Licenses												
Tooling												
GFE	MP	Eglin AFB, Florida										
Award Fees	SS/CPIF/AF	NAVAIR, Pax River, MD	6.705								6.705	6.705
Subtotal Product Development			76.697	5.826		1.500		1.200		Continuing	Continuing	
Remarks:												
Development Support												
Software Development												
Integrated Logistics Support	WX	SPAWAR, Phila. PA	3.862	1.189	11/04	1.189	11/05	1.189	11/06	Continuing	Continuing	
Integrated Logistics Support	WX	NAWCAD, Pax River, MD	2.578									2.578
Technical Data												
Studies & Analyses												
GFE												
Award Fees												
Subtotal Support			6.440	1.189		1.189		1.189		Continuing	Continuing	
Remarks:												

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Exhibit R-3 Cost Analysis (page 2)										DATE: <b>February 2005</b>		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
<b>RDT&amp;E, N / BA-5</b>			0604231N Tactical Command System			2213 Mission Planning						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	SPAWAR, Phila., PA	0.859								0.859	
Operational Test & Evaluation	WX	OPTEVFOR, VA	2.656								2.656	
Live Fire Test & Evaluation												
Test Assets												
Systems Eng. Integration & Test	WX	NAWCWD, Pt Mugu, CA		4.507	11/04	4.040	11/05	3.802	11/06	Continuing	Continuing	
GFE												
Award Fees												
Subtotal T&E			3.515	4.507		4.040		3.802		Continuing	Continuing	
Remarks:												
Contractor Engineering Support												
Government Engineering Support	WX	NAWCAD, Pax River, MD	3.811	0.250	11/04	0.333	11/05	0.358	11/06	Continuing	Continuing	
Program Management Support	RX	NAVAIR PAX	2.440	2.736	11/04	2.000	11/05	2.000	11/06	Continuing	Continuing	
Travel	WX	NAWCAD, Pax River, MD	0.748	0.516	11/04	0.300	11/05	0.200	11/06	Continuing	Continuing	
Transportation												
Government Engineering Support	WX	NAWCWD, Pt Mugu, CA	8.705								8.705	
Subtotal Management			15.704	3.502		2.633		2.558		Continuing	Continuing	
Remarks:												
Total Cost			102.356	15.024		9.362		8.749		Continuing	Continuing	
Remarks:												



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Exhibit R-4a, Schedule Detail						DATE: <b>February 2005</b>		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
<b>RDT&amp;BA-5</b>	0604231N Tactical Command System				2213 Naval Mission Planning			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
<b>Acquisition Milestones</b>								
JMPS V 1.1								
JMPS 1.1 UPCRR	1Q							
JMPS 1.1 OA (DT ASSIST)	1Q							
JMPS 1.1 OTRR	4Q							
JMPS 1.1 OT	4Q							
JMPS 1.2.3 OTRR		3Q						
JMPS V 1.2.3 OT			1Q					
JMPS V 1.2.3.1 TO V 1.2.3.5 OT				1Q	1Q	1Q	1Q	1Q
<b>Test &amp; Evaluation Milestones</b>								
JMPS V 1.1								
System Test	1Q-4Q							
UPC Integration/Validation	1Q-4Q							
JMPS 1.2.3								
JMPS 1.2.3 FQT		2Q						
JMPS DT		2Q						
UPC Integration/Validation		2Q-3Q						
System Test		2Q-3Q						
<b>Production Milestones</b>								
JMPS V 1.1 IOC	4Q							
JMPS V 1.2.3 IOC			2Q					

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Exhibit R-2a, RDTEN Project Justification  
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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>		PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM				PROJECT NUMBER AND NAME 0486 Tactical Support Center/GCCS-M TACMOBILE					
COST (\$ in Millions)			FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
Project Cost			\$1.245	\$1.201	\$1.138	\$1.357	\$1.396	\$1.426	\$1.464	\$1.496	
RDT&E Articles Qty											
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Global Command and Control System-Maritime (GCCS-M) Tactical/Mobile program provides evolutionary systems and equipment upgrades to support Maritime Sector Commanders with the capability to plan, direct and Control the tactical operations of Joint and Naval Expeditionary Forces and other assigned units within their respective area of responsibility. These operations include littoral, open ocean, and over land all-sensor surveillance, anti-surface warfare, over-the-horizon targeting, counter-drug operations, power projection, antisubmarine warfare, mining, search and rescue, and special operations.</p> <p>The missions are supported by the Tactical Support Centers (TSCs) and the Mobile Operations Control Centers (MOCCs). Services provided include analysis and correlation of diverse sensor information; data management support; command decision aids; rapid data communication; mission planning and evaluation and dissemination of surveillance data and threat alerts to operational users ashore and afloat. All Tactical/Mobile systems are based on the GCCS-M architecture, which is Defense Information Infrastructure (DII) Common Operating Environment (COE) compliant.</p> <p>TSCs provide C4I capability, air-ground, satellite and point-to-point communications systems; sensor analysis capabilities; avionics and weapons system interfaces and facilities equipment. MOCC is a scalable and mobile version of the TSC for operations from airfields that do not have TSC support. This program assures that existing TSCs and MOCCs are modernized to fulfill their operational requirements. TSC/MOCC will continue to support P-3C/S-3B aircraft updates to sensors and weapons systems, such as the Anti-Surface Warfare Improvement Program (AIP), as well as develop emergent, ground support capabilities for the Multi-Mission Aircraft (MMA) and Broad Area Maritime Unmanned Aerial Vehicle BAMS UAV).</p> <p>GCCS-M Tac/Mobile R&amp;D efforts are developed in agreement with and in mutual support of OPNAV N62 and N78. These efforts are required to provide support for the N78 platforms as related to the non-C2 aspects of the program. In FY05, GCCS-M will begin migration to Joint Command and Control (JC2) development in coordination with the Joint Command and Control (JC2) Program.</p>											

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**(U) B. Accomplishments/Planned Program**

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.227	0.199	0.205	0.340
RDT&E Articles Quantity				

Develop interface documentation based on joint and coalition SATCOM and line of sight radios, cryptographic units and antenna technology. Ensure interoperability in a land, sea, air, and mobile environment. Investigate and initiate integration of Joint Tactical Radio System (JTRS) compliant radio such as Digital Modular Radio (DMR) as replacement for obsolete VME Integrated Communications Systems (VICS) radio. Design and test new interfaces between JTRS compliant Radio and other TSC/MOCC elements. Continue development activities necessary to stay current with joint and coalition SATCOM and line of sight radios, cryptographic units, antenna technology and the USN/DoD satellite replacement programs. Perform necessary analysis and update TacMobile technical Roadmap documentation to ensure compliance with Navy and Joint communications interoperability requirements (Forcenet, GIG, etc) and implementations that support NetCentric, IP addressing. Conduct testing of air platform support systems and data exchange devices for incorporation into baseline systems for deployment.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.412	0.453	0.350	0.450
RDT&E Articles Quantity				

Improve the acoustic Fast Time Analysis System (FTAS) to increase reliability of the obsolete proprietary hardware, by incorporating Commercial Off The Shelf (COTS) technology, and by incorporating new functionality in support of emerging aircraft acoustic replay capabilities. Develop a detailed set of requirements for follow-on system to include NetCentric, IP addressable functionality. Continue development of new capabilities to support post-flight analysis of acoustic data collected from similar capabilities development for Maritime Patrol Aircraft (MPA).

# UNCLASSIFIED

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2005</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 0486 Tactical Support Center/GCCS-M TACMOBILE

**(U) B. Accomplishments/Planned Program**

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.413	0.393	0.355	0.217
RDT&E Articles Quantity				

Develop new capabilities to support emerging aircraft weapons and non-acoustic sensors on P-3C ASW Improvement Program (AIP, AMIP), P-3C Baseline Modification Upgrade Program (BMUP), and other derivative aircraft. Analyze Broad Area Maritime Surveillance Unmanned Aerial Vehicles (BAMS UAV) and Multi-mission Maritime Aircraft (MMA) specifications and concept documents for impact on TSC and MOCC systems. Develop ATOS interfaces for emerging aircraft data transport devices. Develop new ground support capabilities concurrently with related, new capabilities developed for Maritime Patrol Aircraft (MPA).

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.193	0.156	0.228	0.350
RDT&E Articles Quantity				

Analyze TSC/MOCC requirements for advanced data links such as LINK-16, Common Data Link (CDL) and other high bandwidth data transmission paths. Migrate two-way LINK-11 to new platform. Develop new ground workstation software for new and upgraded aircraft sensors. Continue to develop interfaces for emerging aircraft data transport devices. Perform testing on new software and hardware components. Develop and document ground support systems and associated interfaces to support various data exchange devices for air platforms. Develop new ground workstation software for new and upgraded aircraft sensors. Continue to develop interfaces for emerging aircraft data transport devices. Perform testing on new software and hardware components. Perform necessary analysis and update TacMobile Roadmap documentation to ensure compliance with Navy and Joint sensor interoperability requirements (Forcenet, GIG, etc) and implementations that support NetCentric, IP addressable capabilities.

R-1 SHOPPING LIST - Item No. 91

# UNCLASSIFIED

# UNCLASSIFIED

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2005</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 0486 Tactical Support Center/GCCS-M TACMOBILE

**(U) C. PROGRAM CHANGE SUMMARY:**

(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY 2005 President's Budget	1.297	1.216	1.259	1.489
FY 2006 President's Budget	1.245	1.201	1.138	1.357
Total Adjustments	-0.052	-0.015	-0.121	-0.132
Summary of Adjustments				
Congressional Adjustments		-0.014		
Congressional Rescissions				
Reprogrammings	-0.051	-0.001		
Programmatic Adjustments			-0.125	-0.131
Economic Assumptions			0.005	0.008
Pricing Adjustments			-0.001	-0.009
SBIR/STTR Transfers	-0.001			
Subtotal	-0.052	-0.015	-0.121	-0.132

(U) Schedule:

Schedule updated to reflect planned convergence with Joint Command and Control.

(U) Technical:

N/A.

R-1 SHOPPING LIST - Item No. 91

# UNCLASSIFIED

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification						DATE: <b>February 2005</b>			
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>		PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM			PROJECT NUMBER AND NAME 0486 Tactical Support Center/GCCS-M TACMOBILE				
<b>(U) D. OTHER PROGRAM FUNDING SUMMARY:</b>									
<u>Line Item No. &amp; Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	
GCCS-M TACMOBILE (OPN - BLI 2246)	9.375	5.069	5.270	5.269	5.445	17.700	22.385	22.839	
 <b>(U) E. ACQUISITION STRATEGY:</b>									
N/A									
 <b>(U) F. MAJOR PERFORMERS:</b>									
SPAWAR Systems Center Charleston (SSC-CH) performs all design, development and integration of new capabilities into the Tactical/Mobile systems.									
 <b>(U) G. METRICS:</b>									
Earned Value Management is used for metrics reporting and risk management.									

R-1 SHOPPING LIST - Item No. 91

# UNCLASSIFIED

**CLASSIFICATION:**

Exhibit R-3 Cost Analysis (page 1)								DATE: <b>February 2005</b>				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
<b>RDT&amp;E, N / BA-5</b>			0604231N - TACTICAL COMMAND SYSTEM			0486 Tactical Support Center/GCCS-M TACMOBILE						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	WX	SSC CH	19.328	0.323	VARIOUS	0.290	VARIOUS	0.450	VARIOUS	Continuing	Continuing	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			19.328	0.323		0.290		0.450		Continuing	Continuing	
Remarks:												
Development Support											0.000	
Software Development	WX	SSC CH	34.620	0.618	VARIOUS	0.598	VARIOUS	0.627	VARIOUS	Continuing	Continuing	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			34.620	0.618		0.598		0.627		Continuing	Continuing	
Remarks:												

# UNCLASSIFIED

**CLASSIFICATION:**

Exhibit R-3 Cost Analysis (page 2)										DATE: <b>February 2005</b>		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
<b>RDT&amp;E, N / BA-5</b>			0604231N - TACTICAL COMMAND SYSTEM			0486 Tactical Support Center/GCCS-M TACMOBILE						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation	WX	OPTEVFOR	3.225	0.060	VARIOUS	0.040	VARIOUS	0.060	VARIOUS	Continuing	Continuing	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			3.225	0.060		0.040		0.060		Continuing	Continuing	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support	WX	SSC CH	10.731	0.200	VARIOUS	0.210	VARIOUS	0.220	VARIOUS	Continuing	Continuing	
Travel											0.000	
Transportation											0.000	
Subtotal Management			10.731	0.200		0.210		0.220		Continuing	Continuing	
Remarks:												
Total Cost			67.904	1.201		1.138		1.357		Continuing	Continuing	
Remarks:												

# UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																							DATE: <b>February 2005</b>													
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>								PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM								PROJECT NUMBER AND NAME 0486 Tactical Support Center/GCCS-M TACMOBILE																				
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
<b>Acquisition Milestones</b>																																				
Prototype Phase																																				
Development																																				
Delivery																																				
Software Deliveries	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
<b>Test &amp; Evaluation Milestones</b>																																				
Development Test																																				
Operational Test																																				
<b>Production Milestones</b>																																				
Deliveries																																				

R-1 SHOPPING LIST - Item No. 91



# UNCLASSIFIED

**Classification:**

Exhibit R-5, Termination Liability Funding for Major Defense Acquisition Programs, RDT&E Funding (\$000)	DATE: <b>February 2005</b>
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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 0486 Tactical Support Center/GCCS-M TACMOBILE
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Program Title	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY2010	FY2011
GCCS-M TACMOBILE	-	-	-	-	-	-	-	-

GCCS-M software is developed under an engineering services based contract. Maximum Government liability is limited to the total obligated value of annually awarded task orders.

R-1 SHOPPING LIST - Item No. 91

# UNCLASSIFIED

# UNCLASSIFIED

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification								DATE: <b>February 2005</b>			
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>		PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM				PROJECT NUMBER AND NAME 0521 Shipboard Tactical Intel/GCCS-M INTELLIGENCE APPLICATIONS					
COST (\$ in Millions)			FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
Project Cost			\$2.565	\$2.937	\$2.990	\$3.622	\$3.698	\$3.773	\$3.852	\$3.924	
RDT&E Articles Qty											

**(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:**

GCCS-M Intelligence Applications are an integrated set of Defense Information Infrastructure Common Operating Environment (DII COE) compliant segments designed to support tactical intelligence processing and reside on the Intelligence Shared Data Server (ISDS). The ISDS is the central database server for GCCS-M Afloat, the Command and Control Warfare Commander (C2WC) and tactical mission planning systems. Development of GCCS-M Intelligence applications for this data distribution includes dynamic updates of Naval Intelligence Database (NID) and military integration with digital map and imagery systems. The current GCCS-M Intel Apps effort includes providing intelligence data distribution to multiple shipboard warfighters via an analog video distribution system. Furthermore, the GCCS-M Intel Apps effort will enable the GCCS-M Afloat architecture to meet downgrading and releasability requirements. GCCS-M imagery applications provide for archiving, viewing and mensuration of still and video images. This effort is also continuing the transition to Commercial Off The Shelf (COTS) hardware and software as part of the current GCCS-M initiative to capitalize on the latest Web/PC industry/commercial technology. The GCCS-M Intel Apps effort is part of the Tactical Intelligence and Related Activities (TIARA) program, managed by the Secretary of Defense through the Assistant Secretary of Defense for C4I. In FY05, GCCS-M will begin migration to the Joint Command and Control (JC2) architectural framework in coordination with the Joint Command and Control (JC2) Program. Efforts in FY06-07 will support the continued migration of capabilities as the JC2 architecture is further refined.

# UNCLASSIFIED

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2005</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 0521 Shipboard Tactical Intel/GCCS-M INTELLIGENCE APPLICATIONS		
<b>(U) B. Accomplishments/Planned Program</b>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.765	0.850	0.849	1.025
RDT&E Articles Quantity				
<p>FY04 - C2 FIRES Integration: Developed and improved capability of Intel and Imagery targeting systems. Integrated Joint Targeting Toolbox (JTT) products into GCCS-M. Integrated SCI SIGINT support to GENSER Command and Control capabilities in support of time critical targeting.</p> <p>FY05 - C2/Intelligence, Surveillance and Reconnaissance (ISR) Integration: Provide a standard set of integrated, linked, tools and services that access existing National, Theater, Service, and Coalition imagery and intelligence resources.</p> <p>FY06-07 - C2/ISR Integration - Provides for the continued migration of standardized, linked intelligence and imagery software tools and services to the Joint Command and Control architectural framework.</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.175	0.000	0.000	0.000
RDT&E Articles Quantity				
<p>FY04 - Spectral and Environmental Analysis: Developed and enhanced evolving Intel data sources for C2WC, nodal analysis, and other GCCS-M applications.</p>				

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**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2005</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 0521 Shipboard Tactical Intel/GCCS-M INTELLIGENCE APPLICATIONS

**(U) B. Accomplishments/Planned Program**

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.591	0.631	0.661	0.800
RDT&E Articles Quantity				

FY04 - Imagery / Video Processing: Developed software to implement fleet requirements for integrating order of battle maintenance, imagery analysis, and intelligence support to the Common Operational Picture (COP) into commercial COTS environments to facilitate easy integration with IT-21 platforms and products. Developed interfaces to other imagery archives.

FY05 - Imagery Exploitation. Provide the capability to access and perform manual and automated correlation of national, organically collected, and other imagery and full motion imagery with multiple, dissimilar sources.

FY06-07 - Imagery Exploitation. Provide the capability for Commanders, their battle staffs, and supporting intelligence analysts to exploit ISR from current/next generation UAV platforms and national sensors within the Joint Command and Control architectural framework.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.034	1.456	1.480	1.797
RDT&E Articles Quantity				

FY04 - Threat OOB and C&P: Provided increased functionality in the Intelligence and Imagery applications to support capabilities in the DII COE, including real-time updates to mapping, communication, and track management tools. Integrated Intel data into the SCI enclave.

FY05 - Intelligence Data & Display. Provide the capability to develop, manage and disseminate the Order of Battle and weapons systems characteristics and performance parameters including integration of tactical and near real-time revisions to the Order of Battle.

FY06-07 - Provide the capability to perform manual and automated correlation of the Order of Battle, weapons systems characteristics and performance parameters with multiple, dissimilar Intelligence sources.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2005</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 0521 Shipboard Tactical Intel/GCCS-M INTELLIGENCE APPLICATIONS

**(U) C. PROGRAM CHANGE SUMMARY:**

(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY 2005 President's Budget	2.567	2.967	3.295	3.978
FY 2006 President's Budget	2.565	2.937	2.990	3.622
Total Adjustments	-0.002	-0.030	-0.305	-0.356

Summary of Adjustments

Congressional Adjustments				
Congressional Rescissions		-0.026		
Reprogrammings	-0.002	-0.004	-0.328	-0.397
Programmatic Adjustments				
Economic Assumptions			0.027	0.042
Pricing Adjustments			-0.004	-0.001
SBIR/STTR Transfers				
Subtotal	-0.002	-0.030	-0.305	-0.356

(U) Schedule:

Schedule updated to reflect planned convergence with Joint Command and Control.

(U) Technical:

N/A.

# UNCLASSIFIED

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification	DATE: <b>February 2005</b>
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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 0521 Shipboard Tactical Intel/GCCS-M INTELLIGENCE APPLICATIONS
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**(U) D. OTHER PROGRAM FUNDING SUMMARY:**

<u>Line Item No. &amp; Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>
GCCS-M (OPN - BLI 2608)	25.640	35.556	70.037	56.191	76.276	63.016	88.999	94.966

**(U) E. ACQUISITION STRATEGY:**

N/A

**(U) F. Major Performers:**

Northrop Grumman Management Systems (NGMS) is the prime contractor that provides software development and integration for GCCS-M. SPAWAR System Center San Diego provides support as the Government testing facility.

**(U) G. METRICS:**

Earned Value Management is used for metrics reporting and risk management.

# UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: <b>February 2005</b>				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
<b>RDT&amp;E, N / BA-5</b>			0604231N - TACTICAL COMMAND SYSTEM			0521 Shipboard Tactical Intel/GCCS-M INTELLIGENCE APPLICATIONS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	VARIOUS	VARIOUS	19.011	0.381	VARIOUS	0.380	VARIOUS	0.500	VARIOUS	Continuing	Continuing	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			19.011	0.381		0.380		0.500		Continuing	Continuing	
Remarks:												
Development Support											0.000	
Software Development	VARIOUS	VARIOUS	26.733	2.521	VARIOUS	2.575	VARIOUS	3.082	VARIOUS	Continuing	Continuing	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			26.733	2.521		2.575		3.082		Continuing	Continuing	
Remarks:												

**UNCLASSIFIED**

**CLASSIFICATION:**

Exhibit R-3 Cost Analysis (page 2)										DATE: <b>February 2005</b>		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
<b>RDT&amp;E, N / BA-5</b>			0604231N - TACTICAL COMMAND SYSTEM			0521 Shipboard Tactical Intel/GCCS-M INTELLIGENCE APPLICATIONS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation	WX	OPTEVFOR	2.056	0.000		0.000		0.000		Continuing	Continuing	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			2.056	0.000		0.000		0.000		Continuing	Continuing	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support	VARIOUS	VARIOUS	2.149	0.035	VARIOUS	0.035	VARIOUS	0.040	VARIOUS	Continuing	Continuing	
Travel											0.000	
Transportation											0.000	
Subtotal Management			2.149	0.035		0.035		0.040		Continuing	Continuing	
Remarks:												
Total Cost			49.949	2.937		2.990		3.622		Continuing	Continuing	
Remarks:												

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# UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:												
February 2005																																				
APPROPRIATION/BUDGET ACTIVITY								PROGRAM ELEMENT NUMBER AND NAME								PROJECT NUMBER AND NAME																				
RDT&E, N / BA-5								0604231N - TACTICAL COMMAND SYSTEM								0521 Shipboard Tactical Intel/GCCS-M INTELLIGENCE APPLICATIONS																				
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
<b>Acquisition Milestones</b>																																				
Prototype Phase																																				
Development																																				
Delivery																																				
Software Deliveries	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲				
<b>Test &amp; Evaluation Milestones</b>																																				
Development Test																																				
Operational Test																																				
<b>Production Milestones</b>																																				
Deliveries																																				

R-1 SHOPPING LIST - Item No. 91



# UNCLASSIFIED

**Classification:**

Exhibit R-5, Termination Liability Funding for Major Defense Acquisition Programs, RDT&E Funding (\$000)	DATE: <b>February 2005</b>
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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 0521 Shipboard Tactical Intel/GCCS-M INTELLIGENCE APPLICATIONS
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Program Title	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY2010	FY2011
GCCS-M INTEL APPLICATIONS	-	-	-	-	-	-	-	-

GCCS-M software is developed under an engineering services based contract. Maximum Government liability is limited to the total obligated value of annually awarded task orders.

R-1 SHOPPING LIST - Item No. 91

# UNCLASSIFIED

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification								DATE: <b>February 2005</b>			
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>		PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM				PROJECT NUMBER AND NAME 0709 GCCS-M MARITIME APPLICATIONS					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011		
Project Cost		<b>\$6.974</b>	<b>\$5.984</b>	<b>\$7.167</b>	<b>\$7.766</b>	<b>\$7.940</b>	<b>\$8.096</b>	<b>\$8.274</b>	<b>\$8.438</b>		
RDT&E Articles Qty											

**(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:**

The GCCS-M system is the component of GCCS used in the afloat, ashore and tactical/mobile maritime environments. GCCS-M meets the requirements of the tactical commander for a near real-time, fused common tactical picture with integrated intelligence services and databases. GCCS-M supports the Command, Control, Communication, Computers and Intelligence (C4I) mission requirements of the Chief of Naval Operations (CNO), Fleet Commanders in Chief (CINC), Numbered Fleet Commanders (NFC), Officer in Tactical Command/Composite Warfare Commander (OTC/CWC), Type Commanders (TYCOM), Commander Submarine Operations Authority (COMSUBOPAATH), Commander Task Force (CTF), Commander Amphibious Task Force (CATF), Commander Landing Force (CLF), Ship's Commanding Officer/Tactical Action Officer (CO/TAO), and Joint Task Force (JTF) Commanders, as well as other functional commanders such as the Command and Control Warfare Commander (C2WC). It also integrates both joint and service-unique Command and Control projects in order to support joint task force and Navy afloat requirements. Efforts include design, integration, and test of Tactical Decision Aids (TDAs), Navy Status of Forces (NSOF), and integration of GCCS-M baselines with weapons systems and Combat Direction Systems. These efforts will provide the battle group/force commanders with the information needed to enhance their warfighting capabilities. GCCS-M is also continuing a transition to Commercial Off The Shelf (COTS) hardware and software as part of the current GCCS-M initiative to capitalize on the latest Web/PC industry/commercial technology. GCCS-M is a key system currently being used to support real world operations afloat, ashore, and with tactical/mobile commanders. In FY05, GCCS-M will begin migration to Joint Command and Control (JC2) development in coordination with the Joint Command and Control (JC2) Program. Efforts in FY06-07 will support the continued migration of capabilities as the JC2 architecture is further refined.

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**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2005</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 0709 GCCS-M MARITIME APPLICATIONS

**(U) B. Accomplishments/Planned Program**

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	3.492	2.993	3.394	3.695
RDT&E Articles Quantity				

FY04 - Readiness/Scheduling/JPN/TADILS/BROADCASTS: Developed and incorporated web-based solutions to satisfy emerging readiness data viewing and archiving requirements identified and prioritized by Fleet users. Linked readiness data with track, intelligence, imagery, and other data as required. Integrated GCCS (Joint) segments and other GCCS Family of System segments, as appropriate, with GCCS-M to ensure interoperability. Continued to incorporate WSM requirements as identified by the CRWG process. Developed, enhanced, and integrated capabilities to distribute and associate non-track data with track data using mechanisms provided by the Common Operating Environment (COE) and Maritime extensions.

FY05 - Force Readiness/Mission Preparation/Maritime Execution Management/Undersea Warfare (UW): Facilitate access to and display of current ship readiness data including Aviation Maintenance Reports, CASREP and SORTSREP. Address the legislated requirement to access historical unit movement and status data. Provide the capability to report maritime readiness to the appropriate Joint Commander per the Joint Commander's instruction. Provide the capability to manage Maritime assets including deployment scheduling, pre-positioning and repositioning of units and stores, and allocation and reallocation of units to mission. Provide the capability to plan and manage the employment of undersea assets including water-space assignment, de-confliction and simultaneous monitoring of multiple undersea assets. Provide a bi-directional interface between the UW picture and the Common Operational Picture (COP) to facilitate Blue and Red force UW situational awareness.

FY06-07 - Force Readiness/Maritime Mission Planning and Execution. Provide the capability to plan and manage, within a Joint C2 architectural framework, the prepositioning and repositioning of units and stores and the allocation and reallocation of units for next-generation Force Structure planning and execution management per OSD and CNO mandates. This capability includes the means for the assignment, deconfliction and monitoring of multiple undersea assets.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.688	0.526	0.664	0.717
RDT&E Articles Quantity				

FY04 - Spectral and Environmental Analysis: Enhanced existing spectral and environmental analysis functionality while developing and incorporating new functionality and capability in response to Fleet requirements. Developed and enhanced automatic interface capabilities with METOC functionality as it evolves. Developed and integrated Tactical Decision Aids (TDAs) to support Electronic and Command and Control Warfare at the GENSER and SCI level.

FY05 - Electronic Warfare (EW): Provide EW analytical tools that can access, display and analyze inputs from relevant shipboard sensors. Manage and exploit the electromagnetic spectrum, including the development of electromagnetic exploitation plans using shipboard systems involved in operations against electromagnetic targets.

FY06-07 - Provide the capability to develop, manage, and execute an Emission Control Plan within a Joint C2 framework in order to prevent exploitation of next-generation emitters by emergent/future hostile collection capabilities.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2005</b>	
<b>APPROPRIATION/BUDGET ACTIVITY</b> RDT&E, N / BA5	<b>PROGRAM ELEMENT NUMBER AND NAME</b> 0604231N - TACTICAL COMMAND SYSTEM	<b>PROJECT NUMBER AND NAME</b> 0709 GCCS-M MARITIME APPLICATIONS		
<b>(U) B. Accomplishments/Planned Program</b>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.688	1.490	2.015	2.174
RDT&E Articles Quantity				
<p>FY04 - Aircraft Mission Planning / TACMOBILE: Provided capabilities to support Maritime Patrol Aircraft (MPA) operations; enhanced and improved interfaces between Maritime Patrol Aircraft systems and mission support applications. Continued web enabling of mission support applications and migration of functionality to maintain COE currency.</p> <p>FY05 - C2/Maritime Patrol Aircraft Ground Station Integration: Facilitate shared situational awareness by integrating information from maritime patrol aircraft sensors, emitters and real time event reporting networks into the COP. Provide a bi-directional interface between the Maritime Patrol Aircraft and the COP, as well as the capability to prepare aircrew briefings, show aircraft status and provide mission reconstruction.</p> <p>FY06-07 - Migrate MPA unique shared situational awareness capabilities and systems interfaces into the Joint C2 architectural framework, including those brought by the next generation Multi-Mission Maritime Aircraft (MMA) and UAVs. This capability will support the real-time prosecution of hostile targets identified and localized by MPA/MMA/UAV assets.</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.106	0.442	1.094	1.180
RDT&E Articles Quantity				
<p>FY04 - Testing: Conducted end-to-end system testing of components of the Naval C4I architecture in support of developmental, operational, and interoperability test evolutions. Supported proof of concept testing of emerging C4I technologies in operational exercise environments.</p> <p>FY05-07 - Provides for the conduct of holistic, end-to-end system testing of Maritime C4I capabilities within the emerging Joint C2 architectural framework. This includes developmental, operational, and interoperability test events as well as proof-of-concept testing of emergent capabilities and technologies.</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.533	0.000	0.000
RDT&E Articles Quantity				
<p>FY05 - Architecture: Mine Counter Measures (MCM) / Naval Coastal Warfare (NCW) Command and Control: Facilitate MCM situational awareness through integration with shipboard mine warfare counter measure systems. Provide a bi-directional interface between the MCM picture and the COP as well as support to the planning, evaluation, and asset management required for MCM operations. Facilitate scaled, shared situational awareness by integrating information from visual observation and other sources into the COP. Provide a bi-directional interface between the visual observation and other sources and the COP.</p>				

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**Exhibit R-2a, RDTEN Project Justification**  
(Exhibit R-2a, page 34 of 105)



# UNCLASSIFIED

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>February 2005</b>																				
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>		PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM			PROJECT NUMBER AND NAME 0709 GCCS-M MARITIME APPLICATIONS																						
<p><b>(U) D. OTHER PROGRAM FUNDING SUMMARY:</b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;"><u>Line Item No. &amp; Name</u></th> <th style="text-align: right; border-bottom: 1px solid black;"><u>FY 2004</u></th> <th style="text-align: right; border-bottom: 1px solid black;"><u>FY 2005</u></th> <th style="text-align: right; border-bottom: 1px solid black;"><u>FY 2006</u></th> <th style="text-align: right; border-bottom: 1px solid black;"><u>FY 2007</u></th> <th style="text-align: right; border-bottom: 1px solid black;"><u>FY 2008</u></th> <th style="text-align: right; border-bottom: 1px solid black;"><u>FY 2009</u></th> <th style="text-align: right; border-bottom: 1px solid black;"><u>FY 2010</u></th> <th style="text-align: right; border-bottom: 1px solid black;"><u>FY 2011</u></th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">GCCS-M (OPN - BLI 2608)</td> <td style="text-align: right; padding: 5px;">25.640</td> <td style="text-align: right; padding: 5px;">35.556</td> <td style="text-align: right; padding: 5px;">70.037</td> <td style="text-align: right; padding: 5px;">56.191</td> <td style="text-align: right; padding: 5px;">76.276</td> <td style="text-align: right; padding: 5px;">63.016</td> <td style="text-align: right; padding: 5px;">89.999</td> <td style="text-align: right; padding: 5px;">94.966</td> </tr> </tbody> </table> <p style="padding: 10px 0 0 0;"><b>(U) E. ACQUISITION STRATEGY:</b></p> <p style="padding: 10px 0 0 20px;">N/A</p> <p style="padding: 10px 0 0 0;"><b>(U) F. Major Performers:</b></p> <p style="padding: 10px 0 0 20px;">Northrop Grumman Management Systems (NGMS) is the prime contractor that provides software development and integration for GCCS-M. SPAWAR System Center San Diego provides support as the Government testing facility. Maxim Systems provides systems engineering support for GCCS-M.</p> <p style="padding: 10px 0 0 0;"><b>(U) G. METRICS:</b></p> <p style="padding: 10px 0 0 20px;">Earned Value Management is used for metrics reporting and risk management.</p>										<u>Line Item No. &amp; Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	GCCS-M (OPN - BLI 2608)	25.640	35.556	70.037	56.191	76.276	63.016	89.999	94.966
<u>Line Item No. &amp; Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>																			
GCCS-M (OPN - BLI 2608)	25.640	35.556	70.037	56.191	76.276	63.016	89.999	94.966																			

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)									DATE: <b>February 2005</b>			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
<b>RDT&amp;E, N / BA-5</b>			0604231N - TACTICAL COMMAND SYSTEM			0709 GCCS-M MARITIME APPLICATIONS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	VARIOUS	VARIOUS	12.762	0.500	VARIOUS	0.750	VARIOUS	1.057	VARIOUS	Continuing	Continuing	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			12.762	0.500		0.750		1.057		Continuing	Continuing	
Remarks:												
Development Support											0.000	
Software Development	VARIOUS	VARIOUS	51.274	4.982	VARIOUS	5.826	VARIOUS	6.059	VARIOUS	Continuing	Continuing	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			51.274	4.982		5.826		6.059		Continuing	Continuing	
Remarks:												

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**CLASSIFICATION:**

Exhibit R-3 Cost Analysis (page 2)										DATE: <b>February 2005</b>		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
<b>RDTE&amp;E, N / BA-5</b>			0604231N - TACTICAL COMMAND SYSTEM			0709 GCCS-M MARITIME APPLICATIONS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation	WX	OPTEVFOR	1.090	0.000		0.045		0.060		Continuing	Continuing	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			1.090	0.000		0.045		0.060		Continuing	Continuing	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support	VARIOUS	VARIOUS	9.530	0.502	VARIOUS	0.546	VARIOUS	0.590	VARIOUS	Continuing	Continuing	
Travel											0.000	
Transportation											0.000	
Subtotal Management			9.530	0.502		0.546		0.590		Continuing	Continuing	
Remarks:												
Total Cost			74.656	5.984		7.167		7.766		Continuing	Continuing	
Remarks:												

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																							DATE: <b>February 2005</b>													
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>								PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM								PROJECT NUMBER AND NAME 0709 GCCS-M MARITIME APPLICATIONS																				
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
<b>Acquisition Milestones</b>																																				
Prototype Phase																																				
Development																																				
Delivery																																				
Software Deliveries	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
<b>Test &amp; Evaluation Milestones</b>																																				
Development Test																																				
Operational Test																																				
<b>Production Milestones</b>																																				
Deliveries																																				

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# UNCLASSIFIED



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**Classification:**

Exhibit R-5, Termination Liability Funding for Major Defense Acquisition Programs, RDT&E Funding (\$000)						DATE: <b>February 2005</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>		PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM				PROJECT NUMBER AND NAME 0709 GCCS-M MARITIME APPLICATIONS		
<b>Program Title</b>	<b>FY 2004</b>	<b>FY 2005</b>	<b>FY 2006</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY2010</b>	<b>FY2011</b>
GCCS-M MARITIME APPLICATIONS	-	-	-	-	-	-	-	-
<p>GCCS-M software is developed under an engineering services based contract. Maximum Government liability is limited to the total obligated value of annually awarded task orders.</p>								

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**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>February 2005</b>				
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>			PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM			PROJECT NUMBER AND NAME 2009 OIS Evolutionary Development/TRUSTED INFORMATION SYSTEMS					
COST (\$ in Millions)			FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
Project Cost			<b>\$2.120</b>	<b>\$1.463</b>	<b>\$2.148</b>	<b>\$1.840</b>	<b>\$1.662</b>	<b>\$1.480</b>	<b>\$1.509</b>	<b>\$1.536</b>	
RDT&E Articles Qty											

**(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:**

(U) Trusted Information Systems (TIS) is a combination of the Ocean Surveillance Information System (OSIS) Evolutionary Development (OED) system and the Radiant Mercury (RM) system incorporating multi-level security (MLS) web technologies and Multiple Levels of Security (MSL) technologies in order to successfully provide accredited Cross Domain Solutions (CDS). TIS provides the core on-line, automated, near-real time, multi-level secure, information analysis, dissemination, and receipt capabilities that enable Combatant Commanders and Joint Task Force Commanders afloat and ashore to disseminate and receive critical operational and intelligence information with own forces and Coalition/Allied forces via tactical and record communications circuits. OED is a designated migration system providing for the analysis of intelligence information from multiple sources to produce a comprehensive report of foreign forces and potential hostile activity. The system is required to be able to generate multiple, automated near-real-time event-by-event (NRT EBE) data streams at various classification/releasability levels, tailorable to unique customer requirements and capable of being transmitted over multiple communications paths (including DSNET) simultaneously. In addition, it is required to provide near-real-time (NRT) all-source fusion, correlation and analysis tools (including robust graphics presentation and geospatial analysis capabilities), directly feeding automated reporting capabilities. OED provides positional data and operational intelligence to commanders at all levels. The data derived from this process is disseminated as an Operation Intelligence (OPINTEL) product to the operating forces for tactical threat warnings, decision making support, and support of Over-the-Horizon-Targeting. Radiant Mercury is a tool for the automated sanitizing, downgrading, and transliteration of formatted message traffic. Radiant Mercury helps ensure critical Indications and Warning intelligence is provided quickly to operational decision-makers. This capability to move all-source intelligence-derived track information into the realm of the operational community significantly improves the situational awareness of tactical operators and planners. Additionally, it assists in providing critical operational information to intelligence and crypto logic analysts.

(U) TIS is built on an evolutionary development strategy, which provides a mechanism for adding future capabilities including the incorporation of proven Fleet-initiated prototypes. TIS is the CDS foundation for transformational capabilities and functionalities required for the success of FORCEnet, Net-Centric Enterprise Services (NCES), Joint Command and Control (JC2), Multi-National Information Sharing (MNIS), and Global Information Grid (GIG). These transformational capabilities and functionalities include, but are not limited to, web services (to include XML and SOAP support), CDS to single level and/or untrusted clients, conversion of legacy serial communications to Internet Protocol (IP) connectivity, vastly improved throughput to support larger and larger files, and operating system (OS) migration in support of FORCEnet, NCES, JC2, MNIS, and GIG architectures.

(U) OED and RM are linchpins of network-centric warfare, supporting joint operations and coalition forces in the Global War on Terrorism (GWOT) and in Homeland Security operations. The ability to pass sensitive, yet critical, data across security domains and to our Coalition partners in a timely fashion can only be met by accredited CDS systems such as OED and RM. One example is Blue Force Tracking where CDS provided by TIS allows for near real time coordination of Blue Force locations across Areas of Operation supporting the prevention of fratricide, improving situational awareness, and increasing command and control effectiveness across Joint and Coalition forces.

# UNCLASSIFIED

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2005</b>	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND	PROJECT NUMBER AND NAME		
<b>RDT&amp;E, N / BA5</b>	0604231N - TACTICAL COMMAND	2009 OIS Evolutionary Development/TRUSTED INFORMATION SYSTEMS		
<b>(U) B. Accomplishments/Planned Program</b>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.758	0.777	1.048	0.910
RDT&E Articles Quantity				
<p><b>FY04/05:</b> Develop, integrate, and test Web service front-end to MLS Message Archive search, extend MLS search to PDF files, process Track Management messages from external C4I systems, provide cross domain C2PC gateway services to DODIIS Trusted Workstation (DTW) analyst tools to identify high-interest track candidates for downgrade/processing for coalition redistribution, connectivity to external MIBD, higher throughput for messages and files (directly supporting Blue Force Tracker requirements for the GWOT), remote administration, high availability, COP Synchronization Tool (CST) guarding and sanitization, and greater file sizes to address very large imagery files.</p> <p><b>FY06:</b> Develop, integrate, and test Security label adjudication web services; Web service front end to MLS track management; Web service front end to MLS Message &amp; PDF Profiling/Queueing; MLS web services to DTW; greater throughput for Blue Force Tracker data and messages and imagery; and porting of systems / modification of applications to support new trusted operating systems (OSs) in support of Fn, NCES, JC2, MNIS, and GIG CDS requirements.</p> <p><b>FY07:</b> Develop, integrate, and test MLS collaboration support; data posting from single level untrusted clients; enhanced security web services to meet new security requirements; collapse JCDX web service gateways to single MLS server; provide CDS foundation to Fn, NCES, JC2, MNIS, and GIG; and regionalization of RM services.</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.092	0.091	1.100	0.930
RDT&E Articles Quantity				
<p>Provide Message encoder/decoder updates and security Certification Test and Evaluation (CT&amp;E). Provide updates to OED and RM message encoders, decoders and correlation algorithms in conjunction with security policies / requirements, formatted message standards, sensor data fields, and CDS requirements of Fn, NCES, JC2, MNIS, and GIG. Perform CT&amp;E for mandatory accreditation of the updated CDS capabilities that support Joint and Coalition warfighting missions.</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.303	0.288	0.000	0.000
RDT&E Articles Quantity				
<p>Automate real time Indications and Warning/Situation Assessment capability to detect and auto alert users concerning movement patterns, complex threat conditions and other pre-defined spatial and data detection events. Develop and implement improved tactical decision aids, and system alerting capabilities.</p>				

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**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2005</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 2009 OIS Evolutionary Development/TRUSTED INFORMATION SYSTEMS

**(U) B. Accomplishments/Planned Program**

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.202	0.199	0.000	0.000
RDT&E Articles Quantity				

Systems Engineering in support of OED / RM migration to NCES/JC2/FORCENET architecture and RM migration to embedded VME card-like applications.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.111	0.108	0.000	0.000
RDT&E Articles Quantity				

Develop system interface capabilities as required for current releases for record communications systems with in an accreditable MLS baseline.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.654	0.000	0.000	0.000
RDT&E Articles Quantity				

Developed multi-level secure encryption path within shore-to-ship network for direct connectivity to allied networks. Enabled Counter Terrorism (CT) data in afloat message handling systems and COP database. Enhanced CT data mining and alerting tools at JICs.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2005</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 2009 OIS Evolutionary Development/TRUSTED INFORMATION SYSTEMS			
<b>(U) C. PROGRAM CHANGE SUMMARY:</b>					
(U) Funding:		FY 2004	FY 2005	FY 2006	FY 2007
FY 2005 President's Budget		2.122	1.482	2.137	1.828
FY 2006 President's Budget		2.120	1.463	2.148	1.840
Total Adjustments		-0.002	-0.019	0.011	0.012
Summary of Adjustments					
Congressional Adjustments			-0.017		
Congressional Rescissions					
Reprogrammings		-0.002			
Programmatic Adjustments			-0.002	-0.006	-0.009
Economic Assumptions				0.021	0.024
Pricing Adjustments				-0.004	-0.003
SBIR/STTR Transfers					
Subtotal		-0.002	-0.019	0.011	0.012
(U) Schedule:					
N/A.					
(U) Technical:					
N/A.					

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**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification						DATE: <b>February 2005</b>																				
APPROPRIATION/BUDGET ACTIVITY <b>RDTE, N / BA-5</b>		PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM			PROJECT NUMBER AND NAME 2009 OIS Evolutionary Development/TRUSTED INFORMATION SYSTEMS																					
<p><b>(U) D. OTHER PROGRAM FUNDING SUMMARY:</b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Line Item No. &amp; Name</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2004</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2005</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2006</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2007</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2008</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2009</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2010</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2011</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">GCCS-M TIS (OPN - BLI 2608)</td> <td style="text-align: center; padding: 5px;">1.556</td> <td style="text-align: center; padding: 5px;">1.646</td> <td style="text-align: center; padding: 5px;">1.769</td> <td style="text-align: center; padding: 5px;">0.576</td> <td style="text-align: center; padding: 5px;">0.210</td> <td style="text-align: center; padding: 5px;">2.217</td> <td style="text-align: center; padding: 5px;">2.282</td> <td style="text-align: center; padding: 5px;">2.350</td> </tr> </tbody> </table> <p style="padding: 10px 0 0 0;"><b>(U) E. ACQUISITION STRATEGY:</b></p> <p style="padding: 10px 0 0 20px;">N/A</p> <p style="padding: 10px 0 0 0;"><b>(U) F. Major Performers:</b></p> <p style="padding: 10px 0 0 20px;">Lockheed Martin is the Prime contractor that provides software development for TIS . SPAWAR System Center San Diego provides support as the Government testing facility.</p>									Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	GCCS-M TIS (OPN - BLI 2608)	1.556	1.646	1.769	0.576	0.210	2.217	2.282	2.350
Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011																		
GCCS-M TIS (OPN - BLI 2608)	1.556	1.646	1.769	0.576	0.210	2.217	2.282	2.350																		

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: <b>February 2005</b>				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
<b>RDT&amp;E, N / BA-5</b>			0604231N - TACTICAL COMMAND SYSTEM			2009 OIS Evolutionary Development/TRUSTED INFORMATION SYSTEMS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	VARIOUS	VARIOUS	9.540	0.133	VARIOUS	0.216	VARIOUS	0.195	VARIOUS	Continuing	Continuing	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			9.540	0.133		0.216		0.195		Continuing	Continuing	
Remarks:												
Development Support											0.000	
Software Development	VARIOUS	VARIOUS	49.647	1.248	VARIOUS	1.868	VARIOUS	1.591	VARIOUS	Continuing	Continuing	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			49.647	1.248		1.868		1.591		Continuing	Continuing	
Remarks:												

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**CLASSIFICATION:**

Exhibit R-3 Cost Analysis (page 2)										DATE: <b>February 2005</b>		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
<b>RDT&amp;E, N / BA-5</b>			0604231N - TACTICAL COMMAND SYSTEM			2009 OIS Evolutionary Development/TRUSTED INFORMATION SYSTEMS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation												0.000
Operational Test & Evaluation	WX	OPTEVFOR	0.630	0.050		0.000		0.000		Continuing	Continuing	
Live Fire Test & Evaluation												0.000
Test Assets												0.000
Tooling												0.000
GFE												0.000
Award Fees												0.000
Subtotal T&E			0.630	0.050		0.000		0.000		Continuing	Continuing	
Remarks:												
Contractor Engineering Support												0.000
Government Engineering Support												0.000
Program Management Support	VARIOUS	VARIOUS	2.185	0.032	VARIOUS	0.064	VARIOUS	0.054	VARIOUS	Continuing	Continuing	
Travel												0.000
Transportation												0.000
Subtotal Management			2.185	0.032		0.064		0.054		Continuing	Continuing	
Remarks:												
Total Cost			62.002	1.463		2.148		1.840		Continuing	Continuing	
Remarks:												

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**CLASSIFICATION:**

EXHIBIT R4, Schedule Profile																				DATE: <b>February 2005</b>																				
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME																									
<b>RDT&amp;E, N /</b>					0604231N - TACTICAL COMMAND SYSTEM										2009 OIS Evolutionary Development/TRUSTED INFORMATION SYSTEMS																									
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011											
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4								
<b>Acquisition Milestones</b>					MILESTONE "C" - OED VERSION 5.X												MILESTONE "C" - OED VERSION 6.X																							
Prototype Phase																																								
Development																																								
Delivery																																								
Software OED 5.X SW Delivery																																								
<b>Test &amp; Evaluation Milestones</b>																																								
Development Test																																								
Operational Test																																								
<b>Production Milestones</b>																																								
Deliveries																																								

NOTES:  
1) RM DEEMED POST-MILESTONE C

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: <b>February 2005</b>			
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>		PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM				PROJECT NUMBER AND NAME 2305 GCCS-M COMMON APPLICATIONS					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011		
Project Cost		<b>\$9.936</b>	<b>\$8.959</b>	<b>\$9.779</b>	<b>\$6.785</b>	<b>\$7.051</b>	<b>\$7.287</b>	<b>\$7.555</b>	<b>\$7.800</b>		
RDT&E Articles Qty											

**(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:**

The GCCS-M Common Apps program contains the fundamental building blocks and common applications for all fielded Global Command and Control System (Maritime) C4I systems in the Navy, Marine Corps, and Coast Guard. It is the Navy's tactical implementation of the Global Command and Control System (GCCS) which provides the warfighter: (1) timely access to battlefield information, and (2) state-of-the-art information processing capability to support the Command and Control of maritime forces through a combination of communications, intelligence and combat system interfaces.

The Navy Common Operating Environment program is a core function of the GCCS-M Common Apps in that it serves as the system integration point for Command and Control systems in the Naval services. The program has the responsibility of working with developers throughout the Navy to incorporate the requirements of their users so that they might quickly and efficiently integrate and transform present stovepipe capabilities into an interoperable C4I architecture. As the number of legacy systems migrating to the Defense Information Infrastructure Common Operating Environment (DII COE) continues to grow, resources for rapidly folding them into the service extensions must keep pace as the complexity and size of the COE grows. As a product of evolutionary acquisition, the Navy COE will continue to evolve with the DII COE, new technology, and COMMERCIAL-OFF-THE-SHELF (COTS) products. In FY05, GCCS-M will begin migration to Joint Command and Control (JC2) development in coordination with the Joint Command and Control (JC2) Program. Efforts in FY06-07 will support the continued migration of capabilities as the JC2 architecture is further refined.

GCCS-M Common Apps includes all C4I applications required to fully support Navy joint interoperability in the littoral environment, and includes all common functions such as track database management, message processing, display implementation, correlation and system architecture migration in order to ensure a coherent and consistent implementation of C4I architectures in the Fleet.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2005</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 2305 GCCS-M COMMON APPLICATIONS

**(U) B. Accomplishments/Planned Program**

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.713	0.697	0.691	0.480
RDT&E Articles Quantity				

FY04 - Aircraft Mission Planning: Developed and enhanced interfaces between GCCS-M and aircraft mission planning systems such as Theater Battle Management Core Systems (TBMCS) and Joint Mission Planning System(JMPS).

FY05 - Aerospace Operations: Integrate organic situational awareness capabilities with National, theater, and shipboard aerospace operations management systems to plan and execute aerospace operations and promote shared situational awareness.

FY06-07 - Aerospace Operations. Provide the capability to process and disseminate aircraft mission planning and execution data for disparate sources and platforms within the Joint C2 architectural construct. Required to execute near-real time strike, deep interdiction and power projection missions by current and next-generation manned and unmanned air assets.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.352	1.843	1.351	0.938
RDT&E Articles Quantity				

FY04 - Web-Enabling/Readiness: Developed and implemented the N-tier architecture. Integrated readiness capabilities that satisfy interoperability requirements of Joint and coalition forces, including web-based integration with GCCS-Joint, Joint Operation Planning and Execution System (JOPES), and similar theater-level C4I systems.

FY05 - User Help and Documentation: Provide an embedded documentation and individual/team user help capability that emphasizes performance of mission capabilities.

FY06-07 - Provide the continued migration of web-enabled, task oriented documentation and help capability emphasizing execution of missions within the Joint Command and Control construct.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.584	0.435	1.775	1.230
RDT&E Articles Quantity				

FY04 - Testing/Usability: Continued to conduct proof of concept testing in exercise environments of emerging technology in the C4I arena. Performed systems testing on the integrated components of the Naval C4I architecture developed as part of GCCS-M.

FY05-07 - Provide end-to-end system testing of Maritime C4I capabilities within the emerging Joint C2 architectural framework. This includes developmental, operational, and interoperability test events as well as proof-of-concept testing of emergent capabilities and technologies.

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**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2005</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 2305 GCCS-M COMMON APPLICATIONS

**(U) B. Accomplishments/Planned Program**

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.708	0.729	0.687	0.477
RDT&E Articles Quantity				

FY04 - Combat Systems Interface: Evolved combat system interfaces to web-enabled standards (XML) and enabled full exchange of tracks between GCCS-M, and combat systems such as Aegis, Common C&D, ACDS, SSDS, and NFCS.

FY05 - C2/Navigation Systems Integration / C2/METOC Integration: Integrate with shipboard navigation systems to provide definitive ship location to the COP in support of shared situational awareness. Provide the capability to geo-register and render digital nautical charts/navigation quality map products. Integrate with shipboard meteorological systems to provide current and forecasted environmental data to execute maritime operations and promote shared situational awareness.

FY06-07 - C2/Navigation Systems Integration / C2/METOC Integration: Continues the migration and integration of evolving organic shipboard systems to maritime implementations of the Joint C2 architecture.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	4.087	3.651	3.786	2.627
RDT&E Articles Quantity				

FY04 - JPN/TADILS/BROADCASTS: Implemented the interoperable & scalable C4I system for managing tracks, data links, communications, and sensors that supports Joint/coalition warfare.

FY05 - Situational Awareness (SA) / Battle Force Command and Control (BFC2): Facilitate shared situational awareness by integrating information from shipboard sensors, emitters and real time event reporting networks into the COP. Provide assured SA and BFC2 by integrating information systems spanning GENSER, SCI, and Coalition security domains. Exchange shared situational awareness information via the COP with Joint and shipboard systems (e.g. combat, weapons control, navigation, cryptologic).

FY06-07 - Provide bi-directional shared situational awareness by integrating and exchanging information with disparate systems, sensors and real time event reporting networks (e.g. weapons/fire control, navigation, cryptologic, tactical data links and broadcasts) within the Joint C2 architectural construct. This is required to prevent fratricide and mutual interference of current (e.g. Tomahawk, Aegis, Standard Missile and Patriot) and future weapon systems/platforms (DD-21, JSF, MMA, and Predator) during multi-platform strike operations. Leverages investment in new and upgraded sensors to further develop Situational Awareness and Command and Control throughout the extended Battlespace.

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<b>(U) B. Accomplishments/Planned Program</b>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.140	0.197	0.136	0.094
RDT&E Articles Quantity				
<p>FY04 - Force Protection/Counter-terrorism: Researched, developed and integrated tactical decision aides, analytical tools, and decision support tools to satisfy emergent operational C4I requirements for Force Protection and Counter-terrorism missions. Conducted rapid prototyping and end-to-end testing of these solutions to provide "speed of capability" to the warfighter. Ensured current and emergent functionality and capabilities and provided improved interoperability with Allied and Coalition partners.</p> <p>FY 05 - Emergent Capabilities: Provide the capability to rapidly incorporate emergent and transformational C2I capabilities that have been demonstrated through the experimentation process, and that satisfy Naval, Joint and Coalition C2I requirements.</p> <p>FY 06-07 - Emergent Capabilities: Provide the continued migration of emergent and transformational command and control capabilities to the Joint C2 architectural construct.</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.352	1.407	1.353	0.939
RDT&E Articles Quantity				
<p>FY04 - C2 FIRES Integration: Integrated Command and Control systems with targeting systems at the Naval and Joint levels (e.g., Joint Fires Network). Developed and integrated Joint collaborative products into GCCS-M to enable analysts to exchange application and text data over IP communications.</p> <p>FY05 - Maritime Mission Presentation of COP: Provide the capability to perform unique Shipboard Operations Execution Management tasks (e.g. maritime mission specific overlays/templates).</p> <p>FY06-07 - Targeting/Strike: Provide the capabilities to plan and conduct targeting activities, such as tasking, assignment, and direction of weapons delivery platforms (e.g. NFCS, Tomahawk) and execute strike operations in near-real time using existing and emerging systems, sensors, and data sources (e.g. JSIPS-N, DCGS) within the Joint Command and Control framework. Required to ensure maximum lethality from weapon-target pairing while minimizing collateral damage and preventing fratricide during Joint and Coalition strike operations.</p>				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2005</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDTE&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 2305 GCCS-M COMMON APPLICATIONS			
<b>(U) C. PROGRAM CHANGE SUMMARY:</b>					
(U) Funding:		FY 2004	FY 2005	FY 2006	FY 2007
FY 2005 President's Budget		10.810	9.110	12.809	11.689
FY 2006 President's Budget		9.936	8.959	9.779	6.785
Total Adjustments		-0.874	-0.151	-3.030	-4.904
Summary of Adjustments					
Congressional Adjustments					
Congressional Rescissions			-0.105		
Reprogrammings		-0.731			
Programmatic Adjustments			-0.046	-3.122	-5.037
Economic Assumptions				0.114	0.135
Pricing Adjustments				-0.022	-0.002
SBIR/STTR Transfers		-0.143			
Subtotal		-0.874	-0.151	-3.030	-4.904
(U) Schedule: Schedule updated to reflect planned convergence with Joint Command and Control.					
(U) Technical: N/A.					

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EXHIBIT R-2a, RDT&E Project Justification						DATE: <b>February 2005</b>																					
<b>APPROPRIATION/BUDGET ACTIVITY</b> RDT&E, N / BA-5		<b>PROGRAM ELEMENT NUMBER AND NAME</b> 0604231N - TACTICAL COMMAND SYSTEM			<b>PROJECT NUMBER AND NAME</b> 2305 GCCS-M COMMON APPLICATIONS																						
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<u>Line Item No. &amp; Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>																			
GCCS-M (OPN - BLI 2608)	25.640	35.556	70.037	56.191	76.276	63.016	88.999	94.966																			

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Exhibit R-3 Cost Analysis (page 1)								DATE: <b>February 2005</b>				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
<b>RDT&amp;E, N / BA-5</b>			0604231N - TACTICAL COMMAND SYSTEM			2305 GCCS-M COMMON APPLICATIONS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	VAR	VAR	8.010	0.883	VAR	1.212	VAR	1.033	VAR	Continuing	Continuing	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			8.010	0.883		1.212		1.033		Continuing	Continuing	
Remarks:												
Development Support											0.000	
Software Development	VAR	VAR	50.393	6.662	VAR	6.579	VAR	4.068	VAR	Continuing	Continuing	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			50.393	6.662		6.579		4.068		Continuing	Continuing	
Remarks:												

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**CLASSIFICATION:**

Exhibit R-3 Cost Analysis (page 2)										DATE: <b>February 2005</b>		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
<b>RDT&amp;E, N / BA-5</b>			0604231N - TACTICAL COMMAND SYSTEM			2305 GCCS-M COMMON APPLICATIONS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	VAR	VAR	6.432	0.719	VAR	1.013	VAR	0.822	VAR	Continuing	Continuing	
Operational Test & Evaluation	VAR	VAR	1.079	0.165	VAR	0.230	VAR	0.212	VAR	Continuing	Continuing	
Live Fire Test & Evaluation												0.000
Test Assets												0.000
Tooling												0.000
GFE												0.000
Award Fees												0.000
Subtotal T&E			7.511	0.884		1.243		1.034		Continuing	Continuing	
Remarks:												
Contractor Engineering Support												0.000
Government Engineering Support												0.000
Program Management Support	VAR	VAR	3.452	0.530	VAR	0.745	VAR	0.650	VAR	Continuing	Continuing	
Travel												0.000
Transportation												0.000
Subtotal Management			3.452	0.530		0.745		0.650		Continuing	Continuing	
Remarks:												
Total Cost			69.366	8.959		9.779		6.785		Continuing	Continuing	
Remarks:												

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																							DATE: <b>February 2005</b>													
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>								PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM								PROJECT NUMBER AND NAME 2305 GCCS-M COMMON APPLICATIONS																				
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
<b>Acquisition Milestones</b>																																				
Prototype Phase																																				
Development																																				
Delivery																																				
Software Deliveries	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
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Development Test																																				
Operational Test																																				
<b>Production Milestones</b>																																				
Deliveries																																				

R-1 SHOPPING LIST - Item No. 91



# UNCLASSIFIED

**Classification:**

Exhibit R-5, Termination Liability Funding for Major Defense Acquisition Programs, RDT&E Funding (\$000)							DATE: <b>February 2005</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>		PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM				PROJECT NUMBER AND NAME 2305 GCCS-M COMMON APPLICATIONS		
<b>Program Title</b>	<b>FY 2004</b>	<b>FY 2005</b>	<b>FY 2006</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY2010</b>	<b>FY2011</b>
GCCS-M COMMON APPLICATIONS	-	-	-	-	-	-	-	-
<p>GCCS-M software is developed under an engineering services based contract. Maximum Government liability is limited to the total obligated value of annually awarded task orders.</p>								

R-1 SHOPPING LIST - Item No. 91

# UNCLASSIFIED

**Exhibit R-2a, RD TEN Project Justification**  
(Exhibit R-2a, page 61 of 105)

**UNCLASSIFIED**

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification

DATE:

**February 2005**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME			
<b>RDT&amp;E, N / BA-5</b>	0604231N Tactical Command System				2307 Shipboard LAN/WAN/Integrated Shipboard Network System (ISNS)			
<b>COST (\$ in Millions)</b>	<b>FY 2004</b>	<b>FY 2005</b>	<b>FY 2006</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
Project Cost	<b>\$1.027</b>	<b>\$1.661</b>	<b>\$3.052</b>	<b>\$3.240</b>	<b>\$3.346</b>	<b>\$3.421</b>	<b>\$3.509</b>	<b>\$3.589</b>
RDT&E Articles Qty								

**(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:**

The Integrated Shipboard Network System (ISNS) program provides Navy ships, including submarines, with reliable, high-speed SECRET and UNCLASSIFIED Local Area Network (LAN)s. The LAN provides Basic Network Information Distribution Services (BNIDS) and access to the DISN Wide Area Network (WAN) (Secure and Nonsecure Internet Protocol Router Network -SIPRNet and NIPRNet). It provides the network infrastructure and services to enable real-time information exchange within the ship and between afloat units, Component Commanders, and Fleet Commanders. It is a key factor in the implementation of the Navy's portion of Joint Vision 2020 and the migration of existing legacy systems into the IT-21 strategy. Project funding supports the design, development and testing of the ISNS LAN for surface ships and SubLAN for submarines.

The ISNS program maximizes the use of both COTS software and hardware. Engineering and technical support is provided so that existing systems will keep pace with hardware and software that continues to be commercially supported. ISNS and SubLAN use a combination of high speed wired and wireless switches, routers, servers, workstations and operating system software technologies to provide network access to classified and unclassified applications for use by ship's force, embarked units, embarked commanders and their staffs. Under the Navy's information modernization strategy, full synchronization of shipboard networks, mission and information applications, radio/satellite communications, and shore data dissemination infrastructure are necessary to ensure end-to-end mission capability. The Integrated Shipboard Networking System program is closely synchronized on a ship by ship basis with over 460 different system configurations including the following: Global Command and Control System Maritime (GCCS-M) and Navy Tactical Command Support System (NTCSS), Navy Standard Integrated Personnel System (NSIPS), Theatre Medical Information Program – Maritime (TMIP-M), Defense Messaging System (DMS), Digital Wideband Transmission System (DWTS), Advanced Digital Network System (ADNS), Global Broadcasting System (GBS), Video Information Exchange System (VIXS), Advanced Tomahawk Weapons Control System (ATWCS) and Information Security (INFOSEC) programs. The ISNS program provides the infrastructure to support implementation/fielding of programs listed above. If the ISNS infrastructure is not in place, a large segment of the Fleet will not be able to utilize the available capabilities to improve productivity and increase efficiency. The LAN modernization rate must keep pace with hardware and software that is supported commercially in order to provide a supportable and secure ForceNET infrastructure.

The Combined Enterprise Regional Information Exchange System (CENTRIXS) program provides Navy ships with a reliable, high-speed Local Area Network (LAN) that will provide access to the coalition (Four Eyes, Global Counter Terrorism Task Force (GCTF), CENTRIXS J and K, Multinational Coalition Force Iraq (MCFI) and all other bilaterals) Wide Area Network (WAN). It provides real-time information exchange between afloat units, Component Commanders, numbered Fleet Commanders and Commanders LANT/PAC Fleet through the migration of existing legacy systems into the ISNS strategy, full synchronization of shipboard networks, mission and information applications and Radio/Satellite communications and shore data dissemination infrastructure, installations are necessary to ensure end-to-end capability. The CENTRIXS program maximizes the use of both COTS software and hardware resulting in dependence of commercial support. Engineering and technical support is provided so that existing systems will be upgraded/modified to keep pace with the commercial community.

CENTRIXS RDT&E Project funding supports the development of acquisition documentation essential to the program. The goal for the CENTRIXS program is to provide a cost-efficient operationally effective network that dramatically reduces the infrastructure requirements, while maximizing operational flexibility in a coalition environment. Multi-Level Thin Client (MLTC) initiatives include Server Virtualization Development, which provides the ability to run multiple virtual servers on a single server. Additionally, this funding provides design, developing and testing of the Unit level Multi-Level Security / Multi-Level Thin Client (MLS/MLTC) system that will reduce drop requirements while minimizing server and client footprint and migration testing with the existing Force level design from CENTRIXS to Microsoft software baseline will reduce software costs.

Submarine Local Area Network (SubLAN): The SubLAN program provides Navy submarines, with reliable, high-speed SECRET and UNCLASSIFIED Local Area Networks (LAN)s. When the SubLAN network is combined with other subsystems, it delivers an end-to-end network-centric warfare capability. SubLAN I provides network infrastructure including an Unclassified Wireless Local Area Network (UWLAN), servers, and the Common PC Operating System Environment (COMPOSE), which provides the server and operating system environment in which other applications such as Non-Tactical Data Processing System (NTDPS) application suite can run.

# UNCLASSIFIED

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2005</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System	PROJECT NUMBER AND NAME 2307 Shipboard LAN/WAN/Integrated Shipboard Network System (ISNS)

**(U) B. Accomplishments/Planned Program**

	FY 04	FY 05	FY 06	FY 07
ISNS	0.718	1.163	0.872	0.968
RDT&E Articles Quantity				

**FY(04-FY05):** Perform developmental testing and operational testing of ISNS . The testing events will support a FRP decision for ISNS. Develop COMPOSE 2.X. and 3.X to transition out of Windows NT server/client environment. Continue to investigate, develop and test next generation LAN Protocols (including Wireless LAN, Network management and administration, Secure/Nonsecure Voice, Internet Protocol Video and IPv6 and Quality of Service protocols) for potential incorporation into the Shipboard LAN architecture. Investigate, integrate and test data prioritization, advanced data storage and management, next generation server/workstation operation systems and secure operating systems, server/workstation consolidation and fixes for security vulnerabilities. Perform studies to increase availability and survivability of networks and reduce network infrastructure footprint. Perform disaster recovery plan and develop incremental spiral to mitigate major data and service disasters. Continual investigation of protocols, hardware, and software for insertion into the LAN architecture is driven by eighteen month technology change cycle and maintaining a secure network against evolving threats. Perform follow-on system developmental and operational testing.

**FY06:** Continue to investigate, develop and test major and minor data and service disaster improvements, and dual IPv4 and IPv6 routing architectures. Investigate and test Storage Attached Network (SAN) and Network Attached Storage (NAS) architectures in support of server consolidation. Design and test increased availability and survivability network solutions. Further investigate increasing availability and survivability of networks and reduction of network infrastructure footprint. Investigate increased security technologies that will monitor and control network and server data. Integrate wireless network technologies into shipboard networks. Perform DT and FOT&E on ISNS Increment 1 Force Level variant.

**FY07:** Develop COMPOSE 4.X. Investigate, develop and test server consolidation architectures using multi-Secure server Operating Systems. Continue to investigate, develop and test SAN, NAS, server consolidation, and IP telephony architectures. Develop and test security technologies that monitor and control network and server traffic. Develop and test IP telephony solutions and call management for unclassified and secret networks.

	FY 04	FY 05	FY 06	FY 07
ISNS/CENTRIXS	0.000	0.000	1.807	1.858
RDT&E Articles Quantity				

**FY06:** Conduct testing in support of MS C and Full Rate Production Decisions. Create acquisition documents that provide capabilities, production, testing and logistic documentation. Investigate the Server Virtualization Development that provides ability to run multiple virtual servers on one physical server reducing the server/rack footprint and creating a scalable MLS solution. Investigate MLS/MSL technology that will further reduce the network infrastructure. Complete development of unit-level design.

**FY07:** Further investigate the Server Virtualization Development that provides ability to run multiple virtual servers on one physical server reducing the server/rack footprint and creating a scalable MLS solution. Continue to look into the MLS/MSL security technology that will further reduce the network infrastructure. Investigate VoIP technology for coalition enclaves.

# UNCLASSIFIED

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2005</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System	PROJECT NUMBER AND NAME 2307 Integrated Shipboard Network System SubLAN (ISNS/SubLAN)

**(U) B. Accomplishments/Planned Program**

	FY 04	FY 05	FY 06	FY 07
ISNS/SubLAN	0.309	0.498	0.373	0.414
RDT&E Articles Quantity				

FY(04-FY05): Continue to investigate, develop and test next generation LAN Protocols (including Wireless LAN, Network management and administration, Secure/Nonsecure Voice, Internet Protocol Video and IPv6 and Quality of Service protocols) for potential incorporation into the SubLAN architecture. Investigate, integrate and test data prioritization, advanced data storage and management, next generation server/workstation operation systems and secure operating systems, server/workstation consolidation and fixes for security vulnerabilities. Perform studies to increase availability and survivability of networks and reduce network infrastructure footprint. Perform disaster recovery plan and develop incremental spiral to mitigate major data and service disasters. Continual investigation of protocols, hardware, and software for insertion into the LAN architecture is driven by eighteen month technology change cycle and maintaining a secure network against evolving threats. Perform follow-on system developmental and operational testing. Perform developmental testing and operational testing of SubLAN Increment 1 architecture. The testing events will support a FRP decision for SubLAN 1.

FY06: Continue to investigate, develop and test major and minor data and service disasters improvements, dual IPv4 and Ipv6 routing architectures. Investigate and test Storage Attached Network (SAN), Network Attached Storage (NAS) architectures in support of server consolidation. Design and test increased availability and survivability network solutions. Further investigate increasing availability and survivability of networks and reduction of network infrastructure footprint. Investigate increased security technologies that will monitor and control network and server data. Increase submarine wireless network throughput.

FY07: Investigate, develop and test server consolidation architectures using multi-Secure server Operating Systems. Continue to investigate, develop and test SAN, NAS, server consolidation, and IP telephony architectures. Perform DT/OT on SubLAN Increment 2.

	FY 04	FY 05	FY 06	FY 07
	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				

# UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2005</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System	PROJECT NUMBER AND NAME 2307 Shipboard LAN/WAN/Integrated Shipboard Network System (ISNS)			
<b>(U) C. PROGRAM CHANGE SUMMARY:</b>					
(U) Funding:		FY 2004	FY 2005	FY 2006	FY 2007
FY 2005 President's Budget		1.026	1.685	1.241	1.366
FY 2006 President's Budget		1.027	1.661	3.052	3.240
Total Adjustments		0.001	-0.024	1.811	1.874
Summary of Adjustments					
Congressional Adjustments					
Congressional Rescissions			-0.024		
Reprogrammings		0.005			
Programmatic Adjustments				1.801	1.837
Economic Assumptions				0.011	0.015
Pricing Adjustments				-0.001	0.022
SBIR/STTR Transfers		-0.004			
Subtotal		0.001	-0.024	1.811	1.874
(U) Schedule:					
Previously, the ISNS program funded both ISNS and SubLAN (previously TIDS) programs. Programmatic direction has established ISNS and SubLAN as separate programs.					
ADM of FEB 09, 2004 authorizes SubLAN program to enter post Milestone C, authorizes LRIP, and directs obtaining an ACAT III designation. SubLAN ACAT III designation was authorized on May 13 2004. The schedule has been revised to reflect separate ISNS and SubLAN programs, with their own LRIP and testing events.					
(U) Technical:					

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**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification	DATE: <b>February 2005</b>
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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System	PROJECT NUMBER AND NAME 2307 Shipboard LAN/WAN/Integrated Shipboard Network System (ISNS)
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**(U) D. OTHER PROGRAM FUNDING SUMMARY:**

<u>Line Item No. &amp; Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
OPN 0204163N ISNS	118.795	71.026	155.694	119.636	184.365	227.918	209.673	206.103	Cont	Cont

**(U) E. ACQUISITION STRATEGY:**

A common acquisition strategy for ISNS and SubLAN is being developed for post FRP production.

**(U) F. Major Performers:**

Spawar System Center Charleston, Charleston South Carolina. Software Support Activity  
 Spawar System Center San Diego, San Diego CA. Baseline and interface design and testing for both hardware and software  
 Naval Undersea Warfare Center, Newport RI. SubLAN baseline and interface design and testing for both hardware and software.  
 SAIC, San Diego CA. Studies and rack designs of COTS equipment.

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**UNCLASSIFIED**

<b>CLASSIFICATION:</b>												
Exhibit R-3 Cost Analysis (page 1)										DATE: <b>February 2005</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>				PROGRAM ELEMENT 0604231N Tactical Command System				PROJECT NUMBER AND NAME 2307 Shipboard LAN/WAN/Integrated Shipboard Network System (ISNS)				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	MIPR	FEDSIM/SAIC	1.635								1.635	0.000
Primary Hardware Development	WX	SSC CH	2.132	0.538	12/04	0.998	12/05	1.065	12/06	Continuing	Continuing	0.000
Primary Hardware Development	WX	SSC SD	1.624	0.407	12/04	0.762	12/05	0.814	12/06	Continuing	Continuing	0.000
Primary Hardware Development	TMM	EDS	0.196								0.196	0.000
Systems Engineering	MIPR	MITRE	0.426								0.426	0.000
Systems Engineering	MIPR	FEDSIM/SAIC	1.498								1.498	0.000
Systems Engineering	Various	Various	0.810	0.227	12/04	0.410	12/05	0.432	12/06	Continuing	Continuing	0.000
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development			8.322	1.172		2.170		2.311		0.000	3.755	0.000
Remarks:												
Development Support											0.000	0.000
Software Development											0.000	0.000
Training Development											0.000	0.000
Integrated Logistics Support											0.000	0.000
Configuration Management											0.000	0.000
Technical Data											0.000	0.000
GFE											0.000	0.000
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												

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**UNCLASSIFIED**

**UNCLASSIFIED**

<b>CLASSIFICATION:</b>												
Exhibit R-3 Cost Analysis (page 2)										DATE: <b>February 2005</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>				PROGRAM ELEMENT 0604231N Tactical Command System				PROJECT NUMBER AND NAME 2307 Shipboard LAN/WAN / Integrated Shipboard Network System (ISNS)				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Test & Evaluation	WX	SSC CH	0.743	0.105	12/04	0.189	12/05	0.199	12/06	Continuing	Continuing	0.000
Test & Evaluation	WX	SSD SD	1.378	0.195	12/04	0.353	12/05	0.372	12/06	Continuing	Continuing	0.000
Test & Evaluation	WX	SSC Chespk	0.755	0.105	12/04	0.189	12/05	0.199	12/06	Continuing	Continuing	0.000
Operational Test & Evaluation	WR	OPTEVFOR	0.348	0.050	12/04	0.090	12/05	0.095	12/06	Continuing	Continuing	0.000
Tooling											0.000	0.000
GFE											0.000	0.000
Award Fees												
Subtotal T&E			3.224	0.455		0.821		0.865		0.000	5.365	0.000
Remarks:												
Contractor Engineering Support											0.000	0.000
Government Engineering Support											0.000	0.000
Program Management Support	WX	SSC CH	0.257	0.034	12/04	0.061	12/05	0.064	12/06	Continuing	Continuing	0.000
Travel											0.000	0.000
Subtotal Management			0.257	0.034		0.061		0.064		0.000	0.416	0.000
Remarks:												
Total Cost			11.803	1.661		3.052		3.240		0.000	19.756	0.000
Remarks:												

R-1 SHOPPING LIST - Item No. 91

**UNCLASSIFIED**

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**CLASSIFICATION:**

EXHIBIT R4, Schedule Profile																								DATE: <b>February 2005</b>								
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>												PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System								PROJECT NUMBER AND NAME 2307 Shipboard LAN/WAN / Integrated Shipboard Network System (ISNS)												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<b>Acquisition Milestones</b> ISNS Incr 1		△ MSC								△ FRP																						
Prototype Phase																																
System Development (e.g., Radar System dev.)	ISNS Increment 1																															
Equipment Delivery (e.g., EDM Radar Delivery)																																
Software SW deliveries		△ 2.X						△ 3.X								△ 4.X												△ 5.X				
<b>Test &amp; Evaluation Milestones</b> ISNS Development Test ISNS Operational Test		DT IA				DTIB		OTI		DTIL		FOTE				DT		DT		FOTE								DT		DT		FOTE
<b>Production Milestones</b> ISNS LRIP I	ISNS Incr LRIP																															
Deliveries																																

R-1 SHOPPING LIST - Item No. 88



# UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE: <b>February 2005</b>								
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>												PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System								PROJECT NUMBER AND NAME 2307 CENTRIXS												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<b>Acquisition Milestones</b>											△ MSC				△ FRP				△ MSC				△ FRP				△ MSC				△ FRP	
Prototype Phase																																
System Development (e.g., Radar System dev.)									SD INC II								SD INC III								SD INC IV							
Equipment Delivery (e.g., EDM Radar Delivery)																																
Software 1XXSW Delivery 2XXSW Delivery								△ 3.X***								△ 4.X***																
<b>Test &amp; Evaluation Milestones</b>																																
Development Test											DT																					
Operational Test												OT																				
<b>Production Milestones</b>																																
LRIP I									INC II LRIP																							
LRIP II																	INC III LRIP															
FRP																																
Deliveries																																

R-1 SHOPPING LIST - Item No. 91

\*\*\*CENTRIXS software is greatly leveraged off the ISNS program.

# UNCLASSIFIED



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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE: <b>February 2005</b>																				
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>								PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System								PROJECT NUMBER AND NAME 2307 Integrated Shipboard Network System (ISNS/SubLAN)																												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011															
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4												
<b>Acquisition Milestones</b>																																												
SubLAN Incr 1	△ MSC SubLAN 1								△ FRP SubLAN 1								△ FRP SubLAN 2																											
SubLAN Incr 2									△ MSC SubLAN 2																																			
Prototype Phase																																												
System Development (e.g., Radar System dev.)	SubLAN 1								SubLAN 2																																			
Equipment Delivery (e.g., EDM Radar Delivery)																																												
Software SW deliveries	△ 2.X								△ 3.X								△ 4.X								△ 5.X																			
<b>Test &amp; Evaluation Milestones</b>																																												
SubLAN Incr 1 Dev Test					[DT]												[DT]								[DT]																			
SubLAN Incr 1 OpTest					[OT]												[OT]								[DT]				[DT]															
SubLAN Incr 2 Dev Test																																												
SubLAN Incr 2 OpTest																																												
<b>Production Milestones</b>																																												
SubLAN Incr 1 LRIP	SubLAN 1 LRIP																																											
SubLAN Incr 2 LRIP									SubLAN 2 LRIP																																			
Deliveries																																												

R-1 SHOPPING LIST - Item No. 91



**UNCLASSIFIED**

<b>CLASSIFICATION:</b>									
EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>February 2005</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>		PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM				PROJECT NUMBER AND NAME 3032 NTCSS ENTERPRISE DATABASE AND MLDN			
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		<b>\$3.144</b>	<b>\$0.070</b>	<b>\$0.048</b>	<b>\$0.048</b>	<b>\$0.055</b>	<b>\$0.053</b>	<b>\$0.053</b>	<b>\$0.054</b>
RDT&E Articles Qty									
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:          3032. Navy Tactical Command Support Systems (NTCSS) - This RDT&amp;E,N Project funding supports design, development and testing of the Navy Tactical Command Support Systems (NTCSS) web initiative. A web-enabled NTCSS will place all NTCSS databases into a similar structure, allowing greater interoperability between applications and will facilitate the movement of administrative workload from ships to shore.</p> <p>(U) JUSTIFICATION FOR BUDGET ACTIVITY:          This program is funded under ENGINEERING AND MANUFACTURING DEVELOPMENT because it encompasses engineering and manufacturing development of new end-items prior to production approval decision.</p>									

R-1 SHOPPING LIST - Item No. 91

**UNCLASSIFIED**

# UNCLASSIFIED

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2005</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA - 5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 3032 NTCSS ENTERPRISE DATABASE AND MLDN

**(U) B. Accomplishments/Planned Program**

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	3.144	0.070	0.048	0.048
RDT&E Articles Quantity		1	1	1

FY2004 Accomplishments:  
Web-enabled unit-level NTCSS applications.

FY2005, FY2006 AND FY2007 PLAN:  
Continue Web-enabling of NTCSS applications.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				

R-1 SHOPPING LIST - Item No. 91

# UNCLASSIFIED

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2005</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA - 5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 3032 NTCSS ENTERPRISE DATABASE AND MLDN			
<b>(U) C. PROGRAM CHANGE SUMMARY:</b>					
(U) Funding:		FY 2004	FY 2005	FY 2006	FY 2007
FY 2005 President's Budget		3.277	0.071	0.047	0.047
FY 2006 President's Budget		3.144	0.070	0.048	0.048
Total Adjustments		-0.133	-0.001	0.001	0.001
Summary of Adjustments					
Congressional Adjustments					
Congressional Rescissions			-0.001		
Reprogrammings		-0.133			
Programmatic Adjustments				-0.001	0.001
Economic Assumptions					
Pricing Adjustments					
SBIR/STTR Transfers					
Subtotal		-0.133	-0.001	-0.001	0.001
(U) Schedule:					
Not Applicable					
(U) Technical:					
Not Applicable					

R-1 SHOPPING LIST - Item No. 91

# UNCLASSIFIED

# UNCLASSIFIED

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification								DATE: <b>February 2005</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>			PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM			PROJECT NUMBER AND NAME 3032 NTCSS ENTERPRISE DATABASE AND MLDN				
<b>(U) D. OTHER PROGRAM FUNDING SUMMARY:</b>										
<u>Line Item No. &amp; Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
OPN 261100 Naval Tactical Command Support System	50.936	30.322	59.226	35.349	31.261	39.609	40.444	41.319		
RDT&E PE 0604231N X9373 AN/UYQ-70 Based IT-21	2.450	4.161	0.000	0.000	0.000	0.000	0.000	0.000		6.611
 <b>(U) E. ACQUISITION STRATEGY:</b>										
The NTCSS Acquisition Strategy is defined in its Single Acquisition Management Plan (SAMP) dtd 7 May 99.										
 <b>(U) F. MAJOR PERFORMERS:</b>										
SAIC: Software Design Review and Development, Award Date: 06/04. SPAWAR System Center Norfolk: Software Development, Award Date: 05/05.										
 <b>(U) G. METRICS:</b>										
Earned Value Management is used for metrics reporting and risk management.										

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<b>CLASSIFICATION:</b>												
Exhibit R-3 Cost Analysis (page 1)										DATE: <b>February 2005</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>			PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM			PROJECT NUMBER AND NAME 3032 NTCSS ENTERPRISE DATABASE AND MLDN						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development		Various	0.668								0.668	0.000
Ancillary Hardware Development											0.000	0.000
Systems Engineering	Various	Various	1.000								1.000	0.000
Licenses	Various	Various	0.700								0.700	0.000
Tooling											0.000	0.000
GFE											0.000	0.000
Award Fees											0.000	0.000
Subtotal Product Development			2.368	0.000		0.000		0.000		0.000	2.368	0.000
Remarks:												
Development Support											0.000	0.000
Software Development	Various	Various	7.739	0.070	10/04	0.048	10/05	0.048	10/06		7.905	0.000
Training Development											0.000	0.000
Integrated Logistics Support											0.000	0.000
Configuration Management	Various	Various	0.460								0.460	0.000
Technical Data	Various	Various	0.200								0.200	0.000
GFE											0.000	0.000
Subtotal Support			8.399	0.070		0.048		0.048		0.000	8.565	0.000
Remarks:												

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<b>CLASSIFICATION:</b>												
Exhibit R-3 Cost Analysis (page 2)										DATE: <b>February 2005</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>				PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM				PROJECT NUMBER AND NAME 3032 NTCSS ENTERPRISE DATABASE AND MLDN				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	Various	0.585								0.585	0.000
Operational Test & Evaluation											0.000	0.000
Live Fire Test & Evaluation											0.000	0.000
Test Assets											0.000	0.000
Tooling											0.000	0.000
GFE											0.000	0.000
Subtotal T&E			0.585	0.000		0.000		0.000		0.000	0.585	0.000
Remarks:												
Contractor Engineering Support	Various	Various	0.896								0.896	0.000
Government Engineering Support	Various	Various	0.279								0.279	0.000
Program Management Support											0.000	0.000
Travel											0.000	0.000
Subtotal Management			1.175	0.000		0.000		0.000		0.000	1.175	0.000
Remarks:												
Total Cost			12.527	0.070		0.048		0.048		0.000	12.693	0.000
Remarks:												





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<b>CLASSIFICATION:</b>									
EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>February 2005</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>		PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System			PROJECT NUMBER AND NAME 9123 FORCEnet				
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		<b>\$9.668</b>	<b>\$15.473</b>	<b>\$15.493</b>	<b>\$17.233</b>	<b>\$19.107</b>	<b>\$20.857</b>	<b>\$21.294</b>	<b>\$21.630</b>
RDT&E Articles Qty									

**(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:**

FORCEnet is the Navy and Marine Corps initiative to achieve Network Centric Warfare and Joint Transformation. FORCEnet is the enabler of Sea Power 21, Naval Power 21, the Naval Operating Concept for Joint Operations, and the Department of the Navy's Naval Transformation Roadmap. FORCEnet is executing these policies as detailed in the Secretary of the Navy's *Report to Congress on FORCEnet* (16 May 03).

The FORCEnet project line funds four efforts:

- (1) Strategic Planning: Develops and establishes Navy-wide FORCEnet policy, planning, compliance, and investment strategy, supporting implementation of Network Centric Warfare. Drives DoN/DoD transformation efforts, accelerated innovation/testing/assessment/fielding of warfighter capability, Joint/Allied/Coalition interoperability, and establishment of enterprise FORCEnet requirements.
- (2) Accelerating Joint Warfighting Capabilities: Enables early delivery of Network Centric Warfare capabilities to the warfighter via Fleet-directed Trident Warrior operational events. Integrates stand-alone systems and efforts to achieve substantially enhanced capability, demonstrates/tests these capabilities in both laboratory and operational environments, and evaluates their effectiveness. Coordinates FORCEnet efforts with other Service/Joint/DoD/National efforts to ensure Joint/Interagency/Allied/Coalition applicability and interoperability.
- (3) FORCEnet Compliance Implementation: Develops technical approaches for FORCEnet compliance in response to top-level policy and direction, and integrates into overall DoN/DoD/Agency planning. Develops testing and evaluation for FORCEnet compliance. Provides industry outreach for commercial solutions. Develops and implements interoperability and Network Centric Warfare criteria in acquisition programs via FORCEnet Pilot/Pathfinders and other efforts.
- (4) Osprey Hawksbill - This is a classified program.

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**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2005</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System	PROJECT NUMBER AND NAME 9123 FORCEnet

**(U) B. Accomplishments/Planned Program**

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	<b>9.668</b>	<b>15.473</b>	<b>15.493</b>	<b>17.233</b>
RDT&E Articles Quantity				

FY 04 Accomplishments under each effort include the following:

(1) Strategic Planning:

- Developed 2004 Update of the FORCEnet Campaign Plan, providing near-term implementation products, governance, and timelines for the Navy and Marine Corps.
- Developed FORCEnet Vision for 2020, providing top-level, long-term goals and planning.
- Validated FORCEnet Requirements/Architectures/Standards Spiral 1; transitioned to FORCEnet Compliance.
- Developed FORCEnet Consolidated Compliance Checklist; gained endorsement from cognizant representatives of the Services, Combatant Commanders, Joint Forces Command, Joint Chiefs of Staff, and the Office of the Under Secretary of Secretary of Defense (Acquisition, Technology, and Logistics) via successful reviews with the Net Ready (NR) and Command & Control (C2) Functional Capability Boards.
- Developed FORCEnet Reference Model framework, for use in developing investment strategy planning.
- Established FORCEnet Human Systems Integration (HSI) Working Group; developed coordinated HSI planning with Naval, Service, Joint, Allied, and Coalition organizations.
- Developed FORCEnet Analysis Report, providing the analytic framework and associated metrics to assess the measurable improvements in warfighting capability that FORCEnet provides.

(2) Accelerating Joint Warfighting Capabilities:

- Initiated the FORCEnet spiral development process, including FORCEnet laboratory and operational events to develop/integrate enhanced joint warfighting capability and supporting Tactics/Techniques/Procedures, CONOPS, and to mature FORCEnet requirements.
- Fielded initial prototype FORCEnet capabilities (dynamic multipath survivable networks, distributed collaborative command and control, and expeditionary multi-tiered weapons and sensors) in the USS TARAWA Expeditionary Strike Group via Trident Warrior 04 Exercise.
- Developed planning for follow-on FORCEnet "Speed to Capability" effort in FY 05 in Second Fleet Naval Units, with a focus Allied/Coalition interoperability.

(3) FORCEnet Compliance Implementation:

- Developed FORCEnet compliance implementation planning; deferred to FY 05 for execution.

(4) Osprey Hawksbill - This is a classified program.

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2005</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System	PROJECT NUMBER AND NAME 9123 FORCEnet

### (U) B. Accomplishments/Planned Program

#### FY05 Planning:

- 1) Strategic Planning: Develop expanded Joint/Allied/Coalition coordination/policy/planning. Validate FORCEnet Requirements/Architectures/Standards Spiral 2. Update FORCEnet Consolidated Compliance Checklist, integrate with broader Service/DoD checklists and policies, and establish planning for formal Navy-wide implementation. Support two (2) FORCEnet Operational Assessment Group (OAG) meetings. Support development of the OAG final report which will define the FORCEnet Universal Needs Catalogue.
- 2) Accelerating Joint Warfighting Capabilities: Develop FY05-06 FORCEnet Sea Trial Plan, Develop a FORCEnet Engagement Packs (FnEP) Implementation Plan. Implement a prototype FnEP in Time Critical Targeting and Tactical Ballistic Missile Defense. Develop and implement a process to work with Industry for FORCEnet technology. Execute Trident Warrior 05 in the 2nd Fleet AOR with focus on FORCEnet Coalition/Allied Interoperability.
- 3) FORCEnet Compliance Implementation: Develop FORCEnet Integrated Baseline. Develop FORCEnet compliance assessment tools, Develop FORCEnet compliance test procedures and test methodologies. Refine Fn compliance metrics and define levels of compliance. Conduct compliance testing/assessment reviews and report on compliance adherence to CFFC and ASN RDA. Implement FY05 FORCEnet Pilots/Pathfinders to insert FORCEnet compliance into Acquisition Programs. Report on major contracts/acquisitions reflecting FORCEnet compliance adherence. Plan FY06 FORCEnet Pilots/Pathfinders.
- 4) Osprey Hawksbill - This is a classified program.

#### FY06-FY07 Planning:

- 1) Strategic Planning: Refine expanded Joint/Allied/Coalition coordination/policy/planning. Validate FORCEnet Requirements/Architectures/Standards Spirals 3 and 4. Update integrated FORCEnet Consolidated Compliance Checklist and executed formal Navy-wide implementation. Support two (2) FORCEnet Operational Assessment Group (OAG) meetings in FY06 and FY07. Support development of FY06/07 OAG final reports, and integrate results into policy/planning.
- 2) Accelerating Joint Warfighting Capabilities: Develop FY06-07-08 FORCEnet Sea Trial Plan. Implement prototype FORCEnet Engagement Packs in a FORCEnet "speed to capability" effort in Anti-Submarine Warfare, Mine Warfare, and Anti-Surface Warfare in FY 06 and FY 07 respectively. Develop/conduct Industry collaborative efforts and develop roadmap for FORCEnet commercial technology insertion. Plan and execute Trident Warrior 06/07 operational events to accelerate transition of FORCEnet capability to the Fleet. Trident Warrior 06 is scheduled with C3F CSG / ESG units, USMC MCCDC and I MEF and AUSCANZUKUS Multi-National Task Group focused on Expeditionary Warfare. Trident Warrior 07 is scheduled with C2F CSG / ESG units and AUSCANZUKUS Multi-National Task Group focused on Joint Sea Basing. Perform Military Utility Assessments on previously delivered FORCEnet capability. Report results, and integrate into Strategic Planning.
- 3) FORCEnet Compliance Implementation: Perform POR compliance reviews using validated assessment tools, compliance test procedures/methodologies. Report POR level of Fn compliance to CFFC and ASN(RD&A). Refine/update FORCEnet Integrated Baseline and insert compliance data/results. Develop recommended future (FY08+) FORCEnet Pilots/Pathfinders. Conduct FY06-FY07 FORCEnet Pilots/Pathfinders; report results and integrate into Strategic Planning.
- 4) Osprey Hawksbill - This is a classified program.

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# UNCLASSIFIED

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification	DATE: <b>February 2005</b>
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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System	PROJECT NUMBER AND NAME 9123 FORCEnet
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**(U) C. PROGRAM CHANGE SUMMARY:**

(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY2005 President's Budget	7.759	15.630	17.095	19.034
FY2006 President's Budget	9.668	15.473	15.493	17.233
Total Adjustments	1.909	-0.157	-1.602	-1.801

Summary of Adjustments

Congressional Adjustments				
Congressional Rescissions		-0.138		
Reprogrammings	1.953			
Programmatic Adjustments		-0.019	-1.598	-1.931
Economic Assumptions			0.011	0.077
Pricing Adjustments			-0.015	0.053
SBIR/STTR Transfers	-0.044			
Subtotal	1.909	-0.157	-1.602	-1.801

(U) Schedule:

Not Applicable

(U) Technical:

Not Applicable

# UNCLASSIFIED

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification	DATE: <b>February 2005</b>
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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA- 5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System	PROJECT NUMBER AND NAME 9123 FORCEnet
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**(U) D. OTHER PROGRAM FUNDING SUMMARY:**

<u>Line Item No. &amp; Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
Not Applicable										

**(U) E. ACQUISITION STRATEGY:**

Not Applicable

**(U) F. MAJOR PERFORMERS:**

FY 2004 / FY 2005 / FY 2006 / FY 2007:  
 Fedsim/SAIC, Alexandria, VA: End-to-End Mission Support  
 Booz Allen Hamilton, CA: System Engineering Support  
 SSC, San Diego, CA: TWO4 Risk Reduction LOE, Test Director, Tech Lead, Analysis Support, Network Engineering Support, Install Support  
 Naval Post Graduate School, CA: Analysis Support and Analysis Lead  
 DTIC, VA: NETWARCOM Engineering IA Support

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<b>CLASSIFICATION:</b>												
Exhibit R-3 Cost Analysis (page 1)										DATE: <b>February 2005</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA- 5</b>			PROGRAM ELEMENT 0604231N Tactical Command System			PROJECT NUMBER AND NAME 9123 FORCEnet						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	0.000
Ancillary Hardware Development											0.000	0.000
Aircraft Integration											0.000	0.000
Ship Integration	Various	Various	0.935								0.935	0.000
Ship Suitability											0.000	0.000
Systems Engineering	Various	Various	1.600								1.600	0.000
Award Fees											0.000	0.000
Subtotal Product Development			2.535	0.000		0.000		0.000		0.000	2.535	0.000
Remarks:												
Development Support	Various	Various	2.700								2.700	0.000
Software Development	Various	Various	2.900								2.900	0.000
Integrated Logistics Support											0.000	0.000
Configuration Management											0.000	0.000
Technical Data											0.000	0.000
Osprey Hawkbill & JDSS	Various	Various	3.281	2.934	Various	2.900	Various	2.900	Various	Continuing	Continuing	0.000
GFE											0.000	0.000
Subtotal Support			8.881	2.934		2.900		2.900		0.000	17.615	0.000
Remarks:												

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**UNCLASSIFIED**

<b>CLASSIFICATION:</b>												
Exhibit R-3 Cost Analysis (page 2)										DATE: <b>February 2005</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>			PROGRAM ELEMENT 0604231N Tactical Command System				PROJECT NUMBER AND NAME 9123 FORCEnet					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	Various	1.300								1.300	0.000
FORCEnet Speed to Capability	Various	Various		5.839	Various	5.893	Various	7.633	Various	Continuing	Continuing	0.000
FORCE Compliance				3.000	Various	3.000	Various	3.000	Various	Continuing	Continuing	0.000
Strategic Planning & Implementation			1.953	3.700	Various	3.700	Various	3.700	Various	Continuing	Continuing	0.000
Tooling											0.000	0.000
GFE											0.000	0.000
Subtotal T&E			3.253	12.539		12.593		14.333		0.000	42.718	0.000
Remarks:												
Technical Support			2.124								2.124	0.000
Government Engineering Support			3.899								3.899	0.000
Program Management Support			0.800								0.800	0.000
Travel			0.299								0.299	0.000
Subtotal Management			7.122			0.000		0.000			7.122	0.000
Remarks:												
Total Cost			21.791	15.473		15.493		17.233		0.000	69.990	0.000
Remarks:												

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**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification									DATE: <b>February 2005</b>			
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>			PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System				PROJECT NUMBER AND NAME 9372 3D Common Operational Picture					
COST (\$ in Millions)			FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete	Total Program
Project Cost			1.636	2.566	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.202
RDT&E Articles Qty												0

**A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:**

FY 04 Congressional Add will provide a three-dimensional visualization for critical core GCCS-M Common Operational Picture (COP) capabilities and services. This includes track symbology, geospatial overlays, tactical decision aids to support aerospace operations planning and execution such as air corridors and airspace use areas, and topographic analysis support functions such as sensor coverage areas, fade zones, and terrain masking.

FY05 Congressional Add will provide for the requirements analysis, design, software development, testing and demonstration support necessary to mature a GCCS-M 3-D capability. Specific capability improvements include performance analysis and improvement, full Range Ring / Drop Down line capability, 3D model scaling (relative sizes), enhanced automatic model selection for other track types (Units, Link, etc.), improved track hook (more attributes), additional overlay display in 3D (mission routes, etc.), enhanced support for Space and Missile tracks, I3 access for sensor coverage areas, collaboration tools, 3D Display issues (No Altitude, No Z axis, etc.), record/replay feature (possible Experiment / Demo).

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**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification	DATE: <b>February 2005</b>
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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System	PROJECT NUMBER AND NAME 9372 3D Common Operational Picture
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**(U) B. Accomplishments/Planned Program**

		FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		1.636	2.566	0.000	0.000
RDT&E Articles Quantity					

**FY2004:**  
 Congressional Add provided a three-dimensional visualization for critical core GCCS-M Common Operational Picture (COP) capabilities and services. This included track symbology, geospatial overlays, tactical decision aids to support aerospace operations planning and execution such as air corridors and airspace use areas, and topographic analysis support functions such as sensor coverage areas, fade zones, and terrain masking.

**FY05 :**  
 Congressional Add will provide for the requirements analysis, design, software development, testing and demonstration support necessary to mature a GCCS-M 3-D capability. Specific capability improvements include performance analysis and improvement, full Range Ring / Drop Down line capability, 3D model scaling (relative sizes), enhanced automatic model selection for other track types (Units, Link, etc.), improved track hook (more attributes), additional overlay display in 3D (mission routes, etc.), enhanced support for Space and Missile tracks, I3 access for sensor coverage areas, collaboration tools, 3D Display issues (No Altitude, No Z axis, etc.), record/replay feature (possible Experiment / Demo).

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**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification		DATE:
		<b>February 2005</b>
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
<b>RDT&amp;E, N / BA-5</b>	0604231N Tactical Command System	9372 3D Common Operational Picture

**(U) C. PROGRAM CHANGE SUMMARY:**

(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY2005 President's Budget	1.682	0.000	0.000	0.000
FY2006 President's Budget	1.636	2.566	0.000	0.000
Total Adjustments	-0.046	2.566	0.000	0.000

Summary of Adjustments

Congressional Adjustments	2.600			
Congressional Rescissions	-0.034			
Reprogrammings				
Programmatic Adjustments				
Economic Assumptions				
Pricing Adjustments				
SBIR/STTR Transfers	-0.046			
Subtotal	-0.046	2.566	0.000	0.000

(U) Schedule:  
Not Applicable.

(U) Technical:  
Not Applicable.

# UNCLASSIFIED

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>February 2005</b>																						
<b>APPROPRIATION/BUDGET ACTIVITY</b> RDT&E, N / BA-5			<b>PROGRAM ELEMENT NUMBER AND NAME</b> 0604231N Tactical Command System			<b>PROJECT NUMBER AND NAME</b> 9372 3D Common Operational Picture																							
<p><b>(U) D. OTHER PROGRAM FUNDING SUMMARY:</b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Line Item No. &amp; Name</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2003</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2004</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2005</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2006</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2007</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2008</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2009</th> <th style="text-align: center; border-bottom: 1px solid black;">To Complete</th> <th style="text-align: center; border-bottom: 1px solid black;">Total Cost</th> </tr> </thead> <tbody> <tr> <td colspan="10" style="padding: 10px;">Not Applicable</td> </tr> </tbody> </table> <p style="margin-top: 20px;"><b>(U) E. ACQUISITION STRATEGY:</b></p> <p style="margin-left: 20px;">Not Applicable</p> <p style="margin-top: 20px;"><b>(U) F. Major Performers:</b></p> <p style="margin-left: 20px;">Northrop Grumman Management Systems (NGMS) provides software development and integration for GCCS-M.</p>										Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost	Not Applicable									
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost																				
Not Applicable																													

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**CLASSIFICATION:**

Exhibit R-3 Cost Analysis (page 1)								DATE: <b>February 2005</b>				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
<b>RDT&amp;E, N / BA-5</b>			0604231N - TACTICAL COMMAND SYSTEM			9372 3D Common Operational Picture						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering											0.000	
Training Development											0.000	
Licenses	CPAF	Northrup Grumman	0.000	0.825	02/05	0.000		0.000		0.000	0.825	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			0.000	0.825		0.000		0.000		0.000	0.825	
Remarks:												
Development Support											0.000	
Software Development	CPAF	Northrup Grumman	1.636	1.481	02/05	0.000		0.000		0.000	3.117	
Integrated Logistics Support	CPAF	Northrup Grumman	0.000	0.180	02/05	0.000		0.000		0.000	0.180	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses	CPAF	Northrup Grumman	0.000	0.080	02/05	0.000		0.000		0.000	0.080	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			1.636	1.741		0.000		0.000		0.000	3.377	
Remarks:												

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**CLASSIFICATION:**

Exhibit R-3 Cost Analysis (page 2)										DATE: <b>February 2005</b>		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
<b>RDT&amp;E, N / BA-5</b>			0604231N - TACTICAL COMMAND SYSTEM			9372 3D Common Operational Picture						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support												
Travel											0.000	
Transportation											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			1.636	2.566								
Remarks:												

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<b>CLASSIFICATION:</b>									
EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>February 2005</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>		PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM				PROJECT NUMBER AND NAME 9373 AN/UYQ-70 BASED IT-21 C4ISR UPGRADES			
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		2.450	4.161	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty									
<p><b>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</b></p> <p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Information Technology for the 21st Century Block 1 C4ISR Computing Equipment (IT-21 BLK 1) is developmental engineering effort that will add functionality and focus on improving supportability of deployed systems that reduces fleet maintenance and training requirements. Many of the C4ISR and other similar applications run on outdated, unsupported equipment. Existing computer systems are inadequate to host the software that is needed to improve the functionality of fleet C4ISR systems. Innovations in network solutions are needed to support existing needs as well as provide sufficient growth potential for additional functionality. Commercially produced products suffer from the lack of coordination of technology upgrades and life cycle support that plagued the TAC series of equipment. C4ISR systems have become critical to the overall effectiveness of deployed units. Access to information located anywhere (network centric warfare) is needed to accomplish increasingly complex missions. Legacy equipment was not designed for survivability in harsh combat environments and scenarios. Development of prototypes to replace this legacy equipment will provide a more robust capability under the most demanding conditions, and will also avoid costly and inefficient support of outdated systems. This RDT&amp;E,N funding will be used to develop a common AN/UYQ-70 based solution for IT-21 Block 1 and ultimately ForceNet. Capitalizing on the AN/UYQ-70 Technology allows fast-cycle development and provides improved fleet capability at a reduced cost.</p> <p><b>(U) JUSTIFICATION FOR BUDGET ACTIVITY:</b></p> <p>This program is funded under ENGINEERING AND MANUFACTURING DEVELOPMENT because it encompasses engineering and manufacturing development of new end-items prior to production approval decision.</p>									

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**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2005</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA 5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 9373 AN/UYQ-70 BASED IT-21 C4ISR UPGRADES

**(U) B. Accomplishments/Planned Program**

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	2.450	4.161	0.000	0.000
RDT&E Articles Quantity				

**FY2004 Accomplishments:**

- Researched current C4ISR software applications and designed an integration approach for transition from legacy networks to an enterprise solution. Implemented the C4ISR-T Systems Design effort that incorporated the AN/UYQ-70 rack design.
- Developed an overarching Q-70 BLK system integration, test plan and validation that ensured the Q-70 racks were fully integrated and tested.
- Developed hardware baseline for integration into the Q-70 servers. Integration included standardized configuration, integrated documentation and integrated software applications.
- Developed and implemented an Integrated Logistics Support (ILS) Plan which ensured provisioning, training, technical manuals, support and test equipment (S&TE), Planned Maintenance System (PMS) availability, and other ILS requirements were met.

**FY2005 PLANS:**

- Continue design, development and testing of upgraded AN/UYQ-70 IT-21 rack and server.
- Continue integration efforts to include standardized configuration, integrated documentation and integrated software applications.
- Continue development of Integrated Logistics Support (ILS) Plan.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				

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**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2005</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 9373 AN/UYQ-70 BASED IT-21 C4ISR UPGRADES

**(U) C. PROGRAM CHANGE SUMMARY:**

(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY2005 President's Budget	2.521	0.000	0.000	0.000
FY2006 President's Budget	2.450	4.161	0.000	0.000
Total Adjustments	-0.071	4.161	0.000	0.000

Summary of Adjustments

Congressional Adjustments	4.200			
Congressional Rescissions	-0.039			
Reprogrammings				
Programmatic Adjustments				
Economic Assumptions	-0.002			
Pricing Adjustments				
SBIR/STTR Transfers	-0.069			
Subtotal	-0.071	4.161	0.000	0.000

(U) Schedule:

Not Applicable

(U) Technical:

Not Applicable

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**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification	DATE: <b>February 2005</b>
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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 9373 AN/UYQ-70 BASED IT-21 C4ISR UPGRADES
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**(U) D. OTHER PROGRAM FUNDING SUMMARY:**

<u>Line Item No. &amp; Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
OPN 261100 Naval Tactical Command Support System	50.936	30.322	59.226	35.349	31.261	39.609	40.444	41.319		
3032 NTCSS ENTERPRISE DATABASE AND MLDN	3.144	0.070	0.048	0.048	0.055	0.053	0.053	0.054		

**(U) E. ACQUISITION STRATEGY:**

The NTCSS Acquisition Strategy is defined in its Single Acquisition Management Plan (SAMP) dtd 7 May 99.

**(U) F. MAJOR PERFORMERS:**

Lockheed Martin: Hardware Development. Award Date: 06/04.

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<b>CLASSIFICATION:</b>												
Exhibit R-3 Cost Analysis (page 1)										DATE: <b>February 2005</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>			PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM			PROJECT NUMBER AND NAME 9373 AN/UYQ-70 BASED IT-21 C4ISR UPGRADES						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	Various	Various	2.450	4.161	03/05						6.611	0.000
Ancillary Hardware Development											0.000	0.000
Systems Engineering											0.000	0.000
Licenses											0.000	0.000
Tooling											0.000	0.000
GFE											0.000	0.000
Award Fees											0.000	0.000
Subtotal Product Development			2.450	4.161		0.000		0.000		0.000	6.611	0.000
Remarks:												
Development Support											0.000	0.000
Software Development											0.000	0.000
Training Development											0.000	0.000
Integrated Logistics Support											0.000	0.000
Configuration Management											0.000	0.000
Technical Data											0.000	0.000
GFE											0.000	0.000
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												

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<b>CLASSIFICATION:</b>												
Exhibit R-3 Cost Analysis (page 2)										DATE: <b>February 2005</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>			PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM			PROJECT NUMBER AND NAME 9373 AN/UYQ-70 BASED IT-21 C4ISR UPGRADES						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	0.000
Operational Test & Evaluation											0.000	0.000
Live Fire Test & Evaluation											0.000	0.000
Test Assets											0.000	0.000
Tooling											0.000	0.000
GFE											0.000	0.000
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
Contractor Engineering Support											0.000	0.000
Government Engineering Support											0.000	0.000
Program Management Support											0.000	0.000
Travel											0.000	0.000
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
Total Cost			2.450	4.161		0.000		0.000		0.000	6.611	0.000
Remarks:												

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: <b>February 2005</b>		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
<b>RDT&amp;BA-5</b>	0604231N - TACTICAL COMMAND SYSTEM				9373 AN/UYQ-70 BASED IT-21 C4ISR UPGRADES			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Prototype Phase								
System Design Review (SDR)/SRR	Q2 - Q3	Q2 - Q3						
Milestone II (MSII)								
Contract Preparation								
Software Specification Review (SSR)								
Preliminary Design Review (PDR)	Q3	Q3						
System Development								
Critical Design Review (CDR)	Q2 - Q3	Q2 - Q3						
Quality Design and Build								
Test Readiness Review (TRR)	Q4	Q4						
Developmental Testing (DT-IIA)	Q4	Q1	Q1					
Eng Dev Model (EDM) Radar Delivery - Lab								
Software Delivery 1XXSW								
Preproduction Readiness Review (PRR) PQR		Q1	Q1					
EDM Radar Delivery - Flt Related								
Milestone C (MS C)								
Operational Testing (OT-IIA)								
Start Low-Rate Initial Production I (LRIP I)								
Software Delivery 2XXSW								
Developmental Testing (DT-IIB1)								
Developmental Testing (DT-IIB2)								
Start Low-Rate Initial Production II								
Operational Testing (OT-IIB)								
Developmental Testing (DT-IIC)								
Functional Configuration Audit (FCA)								
Low-Rate Initial Production I Delivery								
Technical Evaluation (TECHEVAL)								
Physical Configuration Audit								
Operational Evaluation (OT-IIC) (OPEVAL)		Q1	Q1					
Low-Rate Initail Production II Delivery								
IOC								
Full Rate Production (FRP) Decision		Q2	Q2					
Full Rate Production Start		Q2	Q2					
First Deployment		Q2	Q2					

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Exhibit R-2a, RD TEN Project Justification  
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